# The Builder.

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### *Architecture Considered as a Business.*

THE question whether an architect's place of work is to be regarded as an "office" or a "studio" is closely linked to the other and larger question whether architecture is a "profession" or an "art." Which is the view adopted by the owner or tenant of the rooms one can judge pretty well at first glance on entering them. In the purely professional architect's "office" we shall see rows of drawers or other receptacles neatly labelled with clients' names and with the classified subjects of trade catalogues, and walls decorated with plans of estates and neat perspectives or photographs of desirable villas built on them. In the art-architect's "studio" one is likely to find, it must be admitted, less of order and regularity but more of variety and interest; models of various decorative details, treasured bits of wood-carving and mosaic and stained glass; perhaps a statuette or relief presented by a brother artist; and so on. The one regards himself as entrusted with the investment of other people's money in building, and the carrying out of buildings so that the client shall get the best commercial value for his money; the other regards himself as commissioned to produce something which shall be a work of art, and does not concern himself much with routine or system of work provided the result be satisfactory from an artistic point of view. He may perhaps waste some of his client's money and of his own time, but this is forgotten if he produces a building of permanent beauty and interest. The "office" architect is probably much more punctilious both as to giving the client value for his money and getting value for his own time; he has everything cut and dried, and can account for every hour of his and his clerks' time; and his architecture is cut and dried also.

We are supposing examples of the two extremes. There may be modifications; but only we think on one side. An architect whose great concern is to produce artistic and beautiful buildings may nevertheless be methodical and businesslike in his habits; it is better that he should be so, and there is no reason in the nature of things why he should not. But we doubt if the architect whose first thought is order and method and punctuality ever gets beyond orderly architecture. As Crabbe says, after describing how "The Learned Boy" lettered and arranged his books before beginning to read them—

> "The love of order—I the thing receive
> From reverend men, and I in part believe—
> Shows a clear mind and clean, and whoso needs
> This love, but seldom in the world succeeds;
> And yet with this some other love must be,
> Ere I can fully to the fact agree."

We do not see much indication of the "other love" in the book on office management which has mainly suggested these remarks.* Mr. Kaye Parry, who we see is a member of the Institution of Civil Engineers, as well as a Fellow of the Institute of Architects, writes his book "for architects and engineers;" judging from the whole tone of it, he evidently regards architecture purely as a business; and in truth we do not see that any man who gave so much attention to the elaboration of system in business routine would be likely to have much thought to spare for the higher side of the pursuit of architecture. At the same time there is the other side of the truth hinted at by Crabbe, that people without order and method seldom succeed in life; and to those who have not realised the desirability of method Mr. Parry's book may afford valuable suggestions, without their thinking it necessary to follow the author into all the details of his system.

If architecture is to be carried on as a business, the author's suggestions in the first chapter in regard to office organisation and the keeping by every assistant of a diary of his work are admirably to the point. On his system, as he says, the principal will always know what fees he ought to charge for any out-of-the-way and miscellaneous professional work; and where architecture is pursued with the end of pocketing fees this is no doubt most desirable. It may even conduce not only to a definite judgment on the fee to be charged, but to expansion of the fee itself. We heard it said once of an eminent and very business-like architect (long since dead), that he would come down to make a survey of buildings for alterations with four assistants; two of them measured, two looked on, and the principal talked to the client, and charged for his own time and four assistants. But this was in the good old days. To say that there are some people who would rather name a round sum, even a little under the mark, than be troubled with these book calculations, would no doubt seem to Mr. Parry a painful example of human weakness and wrongheadedness. But if it is desired to keep this accurate record, the form of "Every Hour Diary" recommended by the author, and issued by a Dublin publisher, has the great merit of simplicity. And we quite concur with the author's advice to have an "Engagements" diary always in the pocket; engagements should be entered on the spot and at the moment, or it is not certain that they will be entered correctly, if at all; and whatever view our readers take of the architect's calling, we hope they will all be of one mind in considering that punctuality in keeping appointments is a virtue absolutely required from every member of the human society. A man who is not punctual to his appointments is not only his own enemy—as he will discover in the light of a fading practice—he is the enemy of the human race; he wastes the time of blameless fellow-men who have taken him at his word. The first steps towards this vice should be resisted. As De Quincey well says, a man who has once committed murder will not stop there; he will take to burglary; you will next hear of him as a drunkard and a Sabbath-breaker, till he finally sinks into procrastination and unpunctuality. Against such a fate a handy pocket engagements book, duly used, is at least the human means of salvation; and we agree as to the form of it; it should consist chiefly of dated blank pages for writing in, not burdened and made cumbersome for the pocket by the addition of many pages of printed matter which the bearer does not need, at all events, while travelling about.

On the question of regularity in office hours we are a good deal in sympathy with Mr. Parry. He asserts, however, that there is a great laxity in many offices as regards office hours; and if in this sentence he refers, as apparently he does, to the staff, we cannot judge whether he is right or not,

* Office Management: a Handbook for Architects and Civil Engineers. By W. Kaye Parry. London: E. & F. N. Spon. 1901.

as we have no means of knowing, and we cannot understand how Mr. Parry knows, unless he makes it part of his business to call at early hours at other men's offices and find out whether the clerks have arrived. For our own part, we have rather a conviction that in the main architects' assistants are a great deal more regular in hours of attendance than their principals. As a rule we are inclined to think that the young men who are articled pupils of architects, or who, from having been articled pupils, have soared —if it be soaring—into the position of paid assistants, are a very conscientious race in regard to their duties towards their master or employer; few or none more so. The principals are, no doubt, on different lines, equally conscientious men; but it is very difficult (and here we have some experience to go upon) to catch them at their offices. Unless you have made an appointment with him, we do not know that there is any kind of professional man (if he is "professional" —there we go round the circle again) whom you are so unlikely to find at his office as a London architect of any standing. Almost the stereotyped answers are either that "Mr. —— is not in, and we cannot say when he will be," or that "he will not be here to-day." In comparison with some other professions, this is of course to a certain extent comprehensible. An architect who takes interest in his work goes about a good deal to inspect it; and an architect who gives thought to his designs finds he can best elaborate them at home, where no one can interrupt him. Still, we cannot but think that architects would be wise to have, more often than most of them seem to have, a definite time when they are to be found at their offices, God willing and weather permitting. With the recommendation that the principal will best ensure regularity of attendance by himself keeping the same hours as his staff we are very much in sympathy; there is a wholesome and honest ring about it, and at all events we think it should be followed in regard to the time of arriving at the office. There is nothing better for the progress of work, and (proverbially) for the health of the worker, than an early start. Whether the doctrine is to be pushed to the length of keeping the same hours altogether is another matter. It is one of the dearly-bought privileges of a man who has struggled into a good position in his profession, to be able to feel that he is the master instead of the servant of his time. If he chooses to go off on a bicycle run on a fine afternoon, and make up for it by working at night, he has earned the right to do so. But he should remember that his pupils and assistants, who have not yet gained the pinnacle, have a right to definite hours of leaving off as well as of commencing work. That is their standard of liberty, with which his own must not interfere.

With the author's remarks and recommendations as to the orderly conducting of correspondence we are entirely in agreement, and especially with the recommendation that the day's letters should be opened and the replies dictated before any other business is entered on. And here comes in one of the great advantages of early hours on the part of the principal. Quality and style of letter-paper too, as Mr. Parry observes, is not without its importance, as unknown correspondents judge of a man's status to some extent from these indications. Heading the letter-paper with the architect's name is a frequent practice, but in our opinion not "good form," nor can we call to mind any architect of the highest position who adopts it. The omission of the printed name, however, renders it incumbent on the architect to sign his name legibly and not in a cryptic style; a matter in which men in many professions besides architecture are culpably careless. Then they write unreasonable complaints that their names are wrongly spelt in a paper or a document—the fault lying with themselves.

In regard to the conducting of the correspondence the author remarks—

> "It is most unwise to entrust any one with the responsible task of opening letters addressed to the firm or to the individual professional man. It is scarcely necessary to add that it is destructive to discipline to permit either a client or contractor to address a letter to any member of the staff on any business matter. This must be put down at once, with much firmness, if the principal is to be the master.
>
> Some professional men allow their confidential clerks to receive letters relating to office matters, but it is a practice which cannot be too strongly condemned."

We are inclined to think it is a not uncommon practice in large offices, but we entirely concur in the condemnation of it. It is not only a question of discipline as regards the principal's position in his own office; there are also the rights of the correspondent to be considered. A correspondent may write a letter to the principal which, without thinking it necessary to mark it "private," he nevertheless would not have wished one of the clerks to read; and it may be a considerable annoyance to him to find that the privacy of his communication has been invaded.

Questions of businesslike procedure with regard to an architectural practice may be divided into those which only concern the internal economy of the office, and those in which the interests of outsiders are implicated. The question of the disposal of drawings of works in progress, and still more of those which are completed, and which accumulate to such a formidable extent in a large office, is a serious one which perhaps is not very often dealt with as systematically as it should be. Mr. Parry makes one very simple but really invaluable suggestion, to the effect that each new work, as soon as drawings of it are commenced, should be distinguished by a number, which should be affixed to or imprinted on every copy of drawings or specification referring to that work. There is an immediate convenience in the saving of a great deal of long title-writing on each drawing; but this is doubly apparent when the drawings have to be stocked for preservation and for possible future reference. No system of storage ought to be considered as satisfactory which requires drawings to be either rolled or folded into creases. In a year or two such drawings, if they have to be taken down for use for alterations or additions, have acquired a "set" which renders them very difficult and irritating to deal with. The author contemplates that such drawings may be rolled and pigeon-holed, but he also suggests a better method, viz., binding them with brown paper along the left-hand margin, and letting them lie over one another flat, on shelves, which must be pretty numerous and close together, otherwise the weight of the mass will make it difficult to extract the lowest layer from the shelf. And here comes in the value of Mr. Parry's system of *opus* numbers, for each bound parcel can have its number written large size on a card or label to be fixed to the outer left-hand corner of the parcel, and as the consecutive order of the numbering should always be preserved, the drawings under any number can be found and produced at once. The system would probably take up a little more cubic space than rolling or folding and pigeon-holding, but its increased convenience and readiness should more than compensate for this. Another excellent suggestion of the author's is the keeping of a book of tear-out forms for the requisition of drawings asked for by contractor or client. Contractors frequently have cause to complain that they are kept waiting for detail drawings which they require, and then there comes the chance that no one in the office admits to knowing of the request. Mr. Parry's system is that it should be the duty of any assistant, or of the principal, immediately on being applied to for a drawing, to fill up and date a requisition form for it, giving the *opus* number of the work and the definition of the drawing required. This is to be handed to the head draughtsman, who files it till the drawing is made, and returns it with the drawing and with the date of its being furnished filled in. Until the drawing required is furnished, the requisition order on the file is a standing reminder of it.

On the other hand, the author's chapter dealing with what some people will be disposed to call "the catalogue nuisance" is a great deal too serious. He seems to regard it as a necessary part of a well-conducted practice to file and index every trade catalogue sent in, and has an elaborate system by which any one of them can be turned up at a moment's notice. He is even sarcastic at the expense of those who do not see this:—

> "For those architects who prefer to muddle along anyhow, and whose lofty souls will not stoop to such trifles as the mere arrangement of catalogues, these observations will have no attractions, and the writer has neither the desire nor the power to win converts from such a class."

That such catalogues as the architect judges it worth while to keep by him should be themselves catalogued, or arranged on such a system that any one can easily be found when required, or replaced by a new edition from the same firm, is of course a mere matter of common-sense; but when the author offers his elaborate system for enabling the users of catalogues "to reduce their brain-worry and actually lengthen their days," it may be suggested that a more direct way of achieving this end would be to drop three-fourths of such catalogues into the waste-paper basket. Any architect with his wits about him can judge from a momentary inspection whether a catalogue sent to his office is likely to be of use to him, or to offer him anything better than he has previously had from other firms in the same line of production. If not, it is much better thrown away. There is nothing more unwise than changing from one firm to another for the mere sake of change, or to "give another firm a turn," or even (a reason that seems to be hinted at by the author) to impress your client with your all-round knowledge of everything that is in the market. An archi-

tect who has once found a firm turn out perfectly good and reliable articles in any special line, will be wise to keep to that firm, and will probably do best for his clients in doing so. And if he goes on that system, a very moderate stock of catalogues will serve his requirements.

In regard to some of the more important points of business procedure in which the interests of others than the architect himself are concerned, Mr. Parry, whose views on questions of this kind are of the soundest kind, refers among other things to the great importance of the architect commanding the full confidence of contractors tendering. As the author puts it, "the higher the character which the architect has for honest straightforward dealing, the better value he will get for his clients. On the other hand, if contractors or business firms fear that the architect may exercise favouritism, they will certainly protect themselves by putting on an extra 5 or 10 per cent." It is also indubitably true that the more complete the drawings and specifications are, the closer will be the tendering. There is, however, another possible explanation of great differences in tendering, besides the two which Mr. Parry names—ignorance on the part of the firms tendering, or ambiguity of plans and specifications. Firms occasionally tender high because they do not want formally to refuse an invitation, but have reasons for not wishing to undertake that particular work. From a further passage in this chapter ("Estimates") we gather that Dublin practice differs a good deal from London, and that the quantity surveyor is not so all-pervading on the banks of the Liffey as on those of the Thames. Under the heading, "Information for Competitors," we read :—

"When no bills of quantities are prepared, each competitor should be furnished with a complete set of copies of the plans and a complete copy of the specifications. These they should be permitted to retain until they send in their tender.

When the tenders are sent in, the plans and specifications should be returned at the same time in a separate envelope suitably endorsed."

The system under which the plans are sent out, with a form attached to them and an envelope for their return, is described; the author does not mention on what system the copies are made. On a previous page of the book he recommends the tracing of drawings in ink from the pencil originals, as more expeditious than putting the latter into ink, and observes that these tracings can be copied by photography for contractors; so they can, as line drawings, but what becomes of distinctive colouring for showing different materials? However, if the drawings were all traced or copied and coloured in several editions, the cost to the client would be much less than that of the quantity surveyor's fee, and the advantage of the system is that it compels the contractor to acquire a personal acquaintance with the drawings of the building he is to carry out, which on the London system he may waive altogether, tendering on the quantities only, and not even knowing what the building is like. Of course the *mot d'énigme* of the situation is that in London profits have been cut so close in competition that builders do not consider it worth their while to tender at all unless they have the quantities cut and dried; but the Dublin system as described by Mr. Parry is a sounder one—provided always that the plans and specifications are full and accurate in every particular; it all turns on that.

Mr. Parry's chapter on "Certificates," which necessarily enters a good deal into the relations of the architect both with client and contractor, is in the words of wisdom from beginning to end, and we recommend its perusal to all young architects. They could not have better advice towards avoiding difficulties with, and doing their duty to, both parties, between whom the architect is properly and naturally an arbitrator, whose duty it is to protect the contractor as well as the building-owner from injustice, although the author mentions that an irate client once stated the case thus—"I pay you, and therefore you should side with me"; an argument which was not, however, allowed to be valid. It is seldom put as crudely as that, but perhaps represents a vague misconception to which the client mind is from time to time liable. The author's advice to the architect, to take every means to let his client have as clear an understanding as possible of what the plans mean, what he is to expect from the building and what he is not to expect, should be duly weighed by the young architect. Clients often feel disappointment and dissatisfaction on the completion of a building from not finding something which they expected, and as to which they might have been enlightened at an earlier stage of the work.

To those who regard architecture mainly as a business to make money by, we should imagine that Mr. Kaye Parry's book would be a kind of professional bible, unless they may possibly consider that some of the items of office administration described are, like the system of catalogue-keeping, more complicated than they are quite worth. To those who regard architecture as an art to be practised for higher ends than mere pecuniary success, a good deal of the book will probably appear to be concerned with matters which are no part of an architect's business at all, and only calculated to burden the mind with details which would interfere with more important considerations. Yet we advise these also to look through the book, for they will find valuable suggestions in it on some important practical considerations which those who pursue architecture as an art and not as a business are sometimes too apt to overlook.

## NOTES.

The New Govetnment Offices.

ON Tuesday night, in the House of Commons, Mr. Whitmore elicited from the First Commissioner of Works, in answer to a question in regard to the carrying out of the design of the late Mr. Brydon for the Government offices in Great George-street, the statement that it had been definitely decided that Mr. Brydon's building, "all the plans of which are in my possession," shall be carried out by the officers of the Office of Works Department. In answer to a question from Lord Balcarres, as to what would be done with the balance of the 26,000*l.* allotted for the architect's fees, it was replied that it was hoped that thereby "a considerable saving would be effected." Every one who knows the ways of English political life knows what this means. The Treasury wants to get the balance of the money, and the architect having unhappily died, it is supposed that any further expenditure on architect's fees may be saved. This may be merely stupidity; but if so, it is a degree of stupidity which, in the case of any one holding the position of First Commissioner of Works, is really culpable. Mr. Akers-Douglas says he has got all the drawings, *ie*, he has got the general plans and elevations; but has he got the detail drawings? And is he so en irely ignorant of architecture as not to know that the very life of such a building, architecturally, consists in the manner in which the details are worked out by the architect? There is not the slightest chance that the building will be properly carried out by the Office of Works; we know only too well what sort of work they will turn out. The only right thing to do is to appoint the best and most scholarly man in Classic architecture to design the detail of Mr. Brydon's building as he might have designed it himself had he lived. If this is not done, the building on which half a million or so is to be spent will infallibly be spoiled to save a few paltry thousands. If any such procedure were proposed in France in the case of a great building of which the architect had died, it would be considered a public scandal; and we do not believe it will be allowed to pass, even in this ignorant country, without a very decided protest from the minority who do know something about architecture.

The Small Art Palace at Paris.

THE Municipal Council, Paris, as mentioned in a footnote to our last "Letter from Paris, have decided on the use of the smaller Art Palace on the Champs Elysées as an Art Museum for the city, and it will henceforth be known as the "Palais des Beaux-Arts de la Ville de Paris," and will receive the collections of works of art which are at present scattered in various places—at the Hôtel de Ville, in other municipal buildings, and in the Magasins des Beaux-Arts at Auteuil. The "Chef de Service des Beaux-Arts" of the Municipality, who will be charged with the arrangement of the new Art Museum, proposes to supply one thing that is wanting at the Luxembourg, by forming a special architectural gallery, in which, along with the principal architectural drawings executed since 1870, will be placed the models of the Hôtel de Ville, the new Sorbonne, the Vaudeville Theatre, the churches of La Trinité, St. Joseph, and other buildings. The lofty gallery along the principal front will be reserved for sculpture, and will have, as its central object, M. Frémiet's group of St. George and the Dragon. The semi-circular gallery around the central garden, which is top-lighted, will be reserved for paintings, and the outer concentric gallery, lighted from the side, will be devoted to engravings, drawings, and special exhibitions. The rooms in the basement will serve for meetings, and committees, and lectures, and for storing sculpture models and casts, and may also be of use for various temporary exhibitions. Under these circumstances M. Girault's beautiful building will probably prove, to lovers of art, one of the attractive places in Paris.

Mr. Long on the Housing Question.

WE wish very much that responsible politicians would deal less in generalities. Mr. Long, the President of the Local Government Board, made a speech last week in which he figuratively laid his hand on his

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heart and expressed the importance with which he regarded the housing question. But not one single practical remark did he make. He said nothing definite about future legislation, nothing about the action of the Local Government Board in putting pressure on local authorities, nothing as to the working of the Act of last Session by which District and County Councils were under certain circumstances to improve the housing accommodation in rural districts. Mr. Long was satisfied to utter semi-platitudes. Every one appreciates the importance of the subject, and unless a Cabinet Minister has something authoritative to say on this question he had much better hold his peace. From Mr. Long's speech we should judge that the Government has no intention of legislating on this subject; perhaps it is as well they should not bring in a Bill, for they would hardly have the energy to pass it into law.

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Trades-Unions and Corporations.

THE decision of the House of Lords this week in what is known as the Taff Vale Railway case is one of far-reaching importance. By that decision the House of Lords have overruled the judgment of the Court of Appeal and have restored that of Mr. Justice Farwell, who held that the Amalgamated Society of Railway Servants could be sued as a corporate body. It is clear that if such a body is liable to be sued, it may become responsible for damages for libels, and its action may be restrained by injunctions from the High Court. Its activity may thus in times of labour disputes be considerably curtailed. This development of the law appears to be entirely in accord with common sense. It would be absurd for combinations of persons, whether artisans or capitalists, to be at once powerful and irresponsible. It is a remarkable and a satisfactory feature of English law that it is constantly accommodating itself to the changes of modern society. There are some who, rightly enough, complain of its want of form, but its very want of symmetry enables it to conform to changing circumstances.

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Piccadilly and the Green Park.

IN view of the Coronation ceremonies next June, the widening of Piccadilly along its southern side, by the taking of a strip out of Green Park and the setting back of the railings, will soon be put in hand. Some plans prepared at the Office of Works provide for an increase of the width of the thoroughfare which varies from 68 ft. to about 100 ft. between Walsingham House and Hyde Park-corner, so as to vary from 72 ft. at Walsingham House to 90 ft. at Park-lane, 120 ft. at Hamilton-place, and 170 ft. at the western end by Hyde Park-corner. We understand that whilst the Office of Works will defray the cost of altering the levels of the ground and paths within the park railings, the London County Council will be asked to pay a sum estimated at nearly 30,000*l.* for the widening of the roadway and of making a new pathway, 24 ft. wide, along the outside of the park railings in their new position. The Ranger's Lodge, by Robert Adam, 1768, was pulled down in 1820, and when Lord Duncannon was First Commissioner for Public Works the Queen's Basin, a reservoir of the Chelsea Waterworks, at the north-eastern corner and Cowford Pool fed by the Tyburn, in the valley of the Park, were filled in (1842).

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The New York Elevated.

THE electrical equipment of the Manhattan Elevated Railway has been practically completed. As it has 75 miles of line and the 200 trains operating on it carry about 200,000,000 passengers per year, it has been a gigantic undertaking, and the American engineers are to be congratulated on the skill with which they have carried out a daring design. Engineers in this country were inclined to think Mr. Parshall rash when he recommended 1,200 horse-power dynamos for the power-station of the Central London Railway and pointed out the stresses that there would be on a rotating armature weighing 48,000 pounds. These machines are, however, dwarfed by the eight alternators erected in the Manhattan Power Station. Each of these is 7,000 h.-p., and each armature weighs 370,000 pounds, *i.e.*, 165 tons. The efficiency of these machines is guaranteed by the makers to be 97 per cent. at 25 per cent. overload. It will be seen that there is not much room for effecting economies by improving the electrical efficiency of a dynamo. As on the Central London Railway, the third rail system is employed, and to protect workmen from accidental shock and to guard against short circuits by accidental contacts, wooden guard strips 2 in. higher than the rail are fixed on each side of it. This simple precaution might be adopted with advantage on several of the electric railways in this country. The electric current leaves the three-phase alternators at a pressure of 11,000 volts and excites ordinary transformers at the sub-stations. From the low tension terminals the alternating current at 390 volts passes into rotary converters and comes out as direct current at 625 volts at which pressure the third rail is maintained. The power required at this rail is 60,000 h.-p. during "rush" hours and 5,000 h.-p. for the remaining period, the average being about 30,000 h.-p. Unlike the Central London Railway the stations are not elevated above the mean level of the track; and hence the saving of power at the start on the down gradient and the reduction of the braking force required to a minimum on the up gradient, cannot be effected. It is stated that the saving effected by this means on the locomotive working expenses of the Central London Railway is thirty per cent.

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Sanitary Work in Liverpool.

THE Annual Report of the Medical Officer of Health for Liverpool is of course largely occupied with matters of purely medical administration. There is evidence, however, that the Liverpool authorities are persevering in their efforts to improve the sanitary condition of dwellings. The courts and alleys continue to decrease in number, owing to the demolition of low-class property for the extension of business premises, or to the removal of insanitary property by the Housing Committee. During the year all courts and alleys having covered entrances were specially washed down and hosed by the scavengers (this appears to be done out of the rates). On the other hand one must regret to see that a most useful clause inserted in the Liverpool Corporation Bill of 1898 to enable the Corporation to make by-laws in regard to the lighting, ventilation, drainage, and general construction of stables, which was confirmed by the unanimous vote of the City Council, was thrown out at the town's meeting, "by persons who gave no reason for their objection to it." The reason could indeed hardly have been a good one. Private, domestic, and office drains are flushed by the City Engineer's staff twice a year; this is a practical recognition of the fact that fouled or impeded drains are a danger to public health, and do not concern only the owners of the drains. Under the head of "insanitary property" we learn that during the past ten years an approximate average of ninety-seven courts, or 679 houses (of an insanitary character), have disappeared annually, somewhat more than half of these having been demolished under the order of the Insanitary Property Committee (now called the "Housing Committee"), the rest having been removed in other ways—some few under the order of the Building Surveyor as being unsafe, but most have been taken down to make room for business buildings. In regard to the provision of dwellings for persons turned out of property which is thus demolished, the Medical Officer remarks:—

"In advocating the desirability of re-housing the people near to their work, the opinion is from time to time expressed that the same number of people who have been displaced must be re-housed upon the sites from which the insanitary property has been removed. No consideration is given to the fact that if this is done the congestion of the people will be as bad as ever it was, nor is it taken into account that in many instances the sites themselves are wholly and entirely unsuitable for the working classes by reason of surrounding warehouses and lofty buildings which shut out the sun, or by reason of the low-lying situation of the sites. Another circumstance which is lost sight of is the fluctuating character of the work, thousands of labourers and their families shifting from place to place and following the work of the contractors at one time at one part and another time at another part of the city. At present the tendency is to locate in the neighbourhood of the Queen's Dock, where extensive works are about to be carried on. Indeed, as the result of a careful inquiry taken in one of the most densely populated labourers' streets, it was found that considerably more than 50 per cent. were engaged in work from a mile and a half to two miles away from their place of residence. These facts prove the practicability of providing for some at least of the dispossessed tenants in the less crowded parts of the city, but within easy access of tram and train."

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Unfavourable Conditions in St. James's.

UNDER this heading Dr. Edmunds, in his Report as Medical Officer of Health to the City Council of Westminster, draws attention to the need for doing something to provide more residences or else more transport for the large number of employees in establishments in Bond-street, Piccadilly, and Regent-street. He says that a vast and growing retail trade for fine goods has encroached upon the neighbourhood of Bond-street, Piccadilly, and Regent-street, while the workers in connexion with it have never been provided with facilities for access to the suburbs, in which they ought to live. Imprisoned, under these circumstances, by the exigencies of their work in St. James's, and by the want of cheap, rapid, timely, and comfortable transport to the suburbs, the cost of lodgings has become insupportable. Also that fashionable tailors, court dressmakers, and other retail trades, which have centred themselves in St. James's, employ a vast army of specialised and highly skilled workers. "If these workers are not to crowd into the

hinterland of St. James's, they must be provided with morning and evening transport between their work-places and their homes—at such hours as will suit their business purposes, so rapid as not to waste time, so cheap as not to encroach too largely upon their wages, and so comfortable as not to fatigue them unduly." From other passages in the Report, we gather that the Medical Officer regards the new form of tube railway as specially suited for the provision of cheap transit to lodgings or dwellings on the outskirts of London. Referring to the congeries of narrow streets east of Regent-street, we quite concur in the opinion that a new street driven through this quarter, parallel to and east of Regent-street, would have a most beneficial effect, increasing the value of sites and leading by degrees to a rebuilding of the whole of this disorganised and labyrinthine area.

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Otterburn Tower, Northumberland.

THIS property, comprising about 1,320 acres, with the Manor of Otterburn, has been placed in the market. It is situated on the north bank of the River Rede. The "Tower," upon the east side of the burn, retains some portions of the earlier stronghold during the Tudor period of the Hall family, which was forfeited at the attainder of John Hall who suffered execution of sentence at Tyburn for his share in the "'15." In the Otterburn Ward of Elsdon, at the meeting of the Otterburn and Rede, is the site of the battle fought on August 10, 1388, between the Earl of Northumberland and his son, Sir Henry Percy, Warden of the Marches, and an invading army of Scots led by the Earls of Douglas, Moray, and Dunbar. As they were returning to Jedburgh from Newcastle the latter forces entrenched themselves at Greenchesters, where their camp may yet be traced. Froissart describes the encounter, and upon the old ballad is founded the modern one of "Chevy Chace." The property was withdrawn from sale, at 24,000*l.*, on Tuesday, at the Mart.

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The Parish Church, Wymondham.

WE learn that Mr. W. S. Hicks has been appointed as architect for the proposed restoration, at an estimated cost of about 20,000*l.*, of the parish church of Wymondham. The fabric embodies the nave of the church of the abbey which, having been valued at 72*l.* 5s. 4d. per annum, was granted at the Dissolution by Henry VIII. to the Earl of Surrey. The abbey, as so constituted in 1448, had been originally a priory of Black monks founded by William D'Albini, or Daubeney, in 1130, as a cell to St. Alban's, and largely endowed by Henry I. The western tower, with octagonal buttress turrets, was built in 1445-76 by the parishioners to whom the nave and north aisle were assigned in 1349, the choir and chapels being reserved for the conventual church of SS. Mary and Alban; the choir, north lady-chapel, and transepts have become ruined.

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Sun Blinds.

IT is a matter of constant surprise that every year the summer sunshine finds the householder little better prepared to alleviate its drawbacks. During the hot weather of the present month any number of people have been inconvenienced and work and pleasure prevented by the want of sun blinds. With a good sun blind a room can be kept a number of degrees cooler and neither work nor pleasure is prevented, as they must be in a room with an abnormally high temperature. To be sure, in many London houses there are inside sun blinds. These, however, are the most useless of all contrivances. The glass behind them gets ever hotter and hotter, and in the winter they are no protection against wind and cold. Wooden sheets, whether plain or rayed, are the simplest of all these systems, and it is surprising that in country districts they are not more utilised. It is positively melancholy to see rows of suburban villas being so baked in a sunshine which is prized under favourable conditions, that the unfortunate occupant longs for the days of cloud and rain. We do not say that sun blinds obviate all the inconveniences caused by a hot sun, because too many English houses are built so that they are useless with a low or a high thermometer. But the universal use of sun blinds would do much to make life more agreeable in the dog-days.

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## THE ANNUAL EXCURSION OF THE ARCHITECTURAL ASSOCIATION.

THE headquarters of the Architectural Association for the annual week's study of English architecture in the field have been fixed at the ancient town and Roman settlement of Cirencester, a town hitherto unvisited by the Association, but forming an excellent centre for covering ground left beyond the radius of previous excursions from neighbouring centres as Cheltenham, Oxford, and Bath.

The official arrangements, followed by a large proportion of the members, made the departure from London on Saturday last by reserved carriages on the 3.15 p.m. train from Paddington, and the party thus travelling had, spite of the exalted state of the thermometer, a pleasant journey. The advance guard were joined by various detachments throughout Saturday and Sunday in readiness for the grand attack on Monday morning.

Sunday was spent, as is the invariable custom, quietly, a drive being taken by some of the party in the afternoon to the interesting Church of Northleach, dedicated to SS. Peter and Paul. This is a fine large church, with nave and aisles of five bays, a long chancel with north and south aisles, western tower, and south porch. From internal evidence the tower and south porch appear to have been added to an earlier church, possibly of thirteenth century date, at the beginning of the fifteenth century, and later on towards the end of the century, probably about 1489, the date carved on one of the corbels, the nave and aisles were rebuilt. The tower and porch are of vastly superior design to the remainder of the church, and admirable amongst the best examples of perpendicular wall, the porch having the additional interest of the readily decipherable iconography of the original sculpture.

Internally, there is much worthy of notice: an original stone pulpit and font; the mutilated remains of a stone reredos to the altar in the south aisle, still bearing clear traces of colour; a stone altar now in the vestry, which is hardly likely to be its original position, but which is more probably that of the south aisle. There are also the original roofs of the nave and aisles, flat in shape, moulded and carved, but not very richly; a triple sedilia of pleasing design in the chancel; stair to the rood loft on the north aisle wall; numerous brasses of wealthy traders and wool staplers. The piers of the nave arcade furnish one of the somewhat uncommon examples of concave-faced octagonal shafts. Some curious corbels on the second bay of the north nave arcade, which in detail reproduce the sections of the pier caps, afford a good opportunity for speculation and conjecture, which did not appeal to the architect members of the party to the extent that it might have done had they been archæologists. But on an excursion of the Architectural Association, archæology, pure and simple, is at a discount, design and building are the objects of study, beauty and truth the objects of admiration.

Returning, a short halt was made at Coln St. Denys for a glance at the exterior of the small but picturesque church, where a small central Norman tower has formed the stock on which the remainder of the construction has been subsequently grafted at various dates.

*Monday.*—Fortunately for the excursionists the intense heat of last week was at the start of their hard work moderated by a cloudy sky and north-west wind, whilst occasional bursts of sunshine prevented undue dulness of weather.

Starting eastward, the first halt was made at Ampney Crucis, where the church was the objective provided for study. This is somewhat small, but with considerable interest, commenced evidently at the very end of the twelfth century, with Transitional chancel arch, but mainly Early English, with Decorated and Perpendicular insertions and additions. The plan is cruciform without aisles, with south porch and western tower of sturdy proportion and simple battlemented skyline. The porch is of Perpendicular date, as is also the sanctus-bell cot over the chancel arch. Within the church, amongst the points of interest are some thirteenth-century colour decoration in fair preservation; a piscina with credence shelf in the north transept; Perpendicular nave roof of flat pitch with colour decoration; remains of stair to rood loft on the south side of chancel arch; some late monuments, particularly that of the Floyds or Lloyds, whose name appears amongst the earliest entries in the parish registers, which date from 1566. In the churchyard is a good example of a churchyard cross, which has been judiciously repaired, or rather re-erected, with clear indication by absence of moulding or decorative treatment of what is new and what is old. There is also in the village the relic of another cross, from which the place takes its name rather than from the churchyard cross, for these are in this part of the country too frequent to differentiate one village from a neighbour.

Adjacent to the church is the manor house, the drawing-room in which is the chief architectural interest, possessing a fine moulded plaster ceiling, wood panelled walls, and a remarkable chimney-piece with allegorical sculptured panel representing the Christian man's victory over the world, the flesh, and the devil, and enclosed in excellent architectural design. Thus the whole room is a perfect example of seventeenth-century work.

Proceeding still eastward the members then drove to Fairford, the small but ancient town whose chief attractions are the well-known stained-glass windows and the trout-fishing in the Colne river. The prosperity of Fairford commenced with the purchase of the manor from Henry VII. by John Tame, a wool merchant, whose business ability was more advantageous to the town than the regal possession of the Kings of Mercia in the ninth century or of Queen Maud at the time of the Doomsday survey. The glass is said to have been obtained by the somewhat piratical enterprise of John Tame who, in trading to Italy about the year 1492, is said to have captured a Flemish vessel bound to Rome with a quantity of stained glass on board, and this was utilised for Fairford Church, the erection of which was commenced by John Tame in 1493, and completed by Sir Edmund Tame after his father's death in 1500. How much of this story is true and how much allegorical legend of the Whittington type we cannot pretend to determine, but there is no doubt that the glass is Flemish work of the latter end of the fifteenth century, a time when commerce with Flanders was at its zenith and Fairford in the centre of the wool stapling industry. The church itself is well worthy of study as an example of the latest phase of Perpendicular, the central tower in particular being very clever in design, with that especial cleverness that is not absent altogether from the work of some of our younger prominent church architects of to-day, the cleverness whose effort is apparent rather than felt. This central tower is noticeable both internally for its lantern treatment and externally for its complication of plan and features. The chancel is enclosed by some exquisitely carved screens, and contains the original choir stalls with western seats *in situ*, misereres, and carving complete and perfect. Tombs, monuments, brasses, and colour decoration are all worthy of study, despite the overpowering attraction of the stained glass

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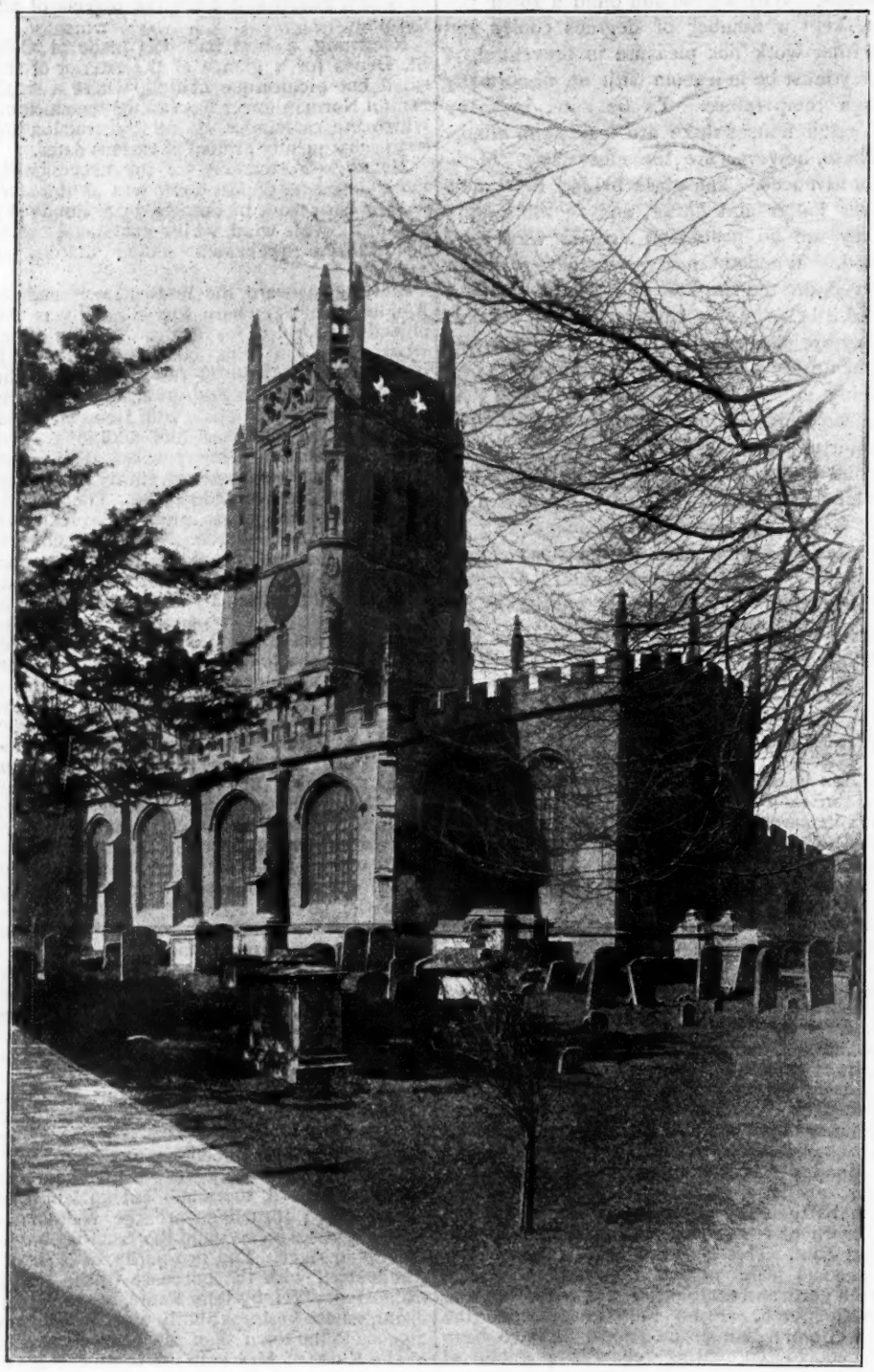


Photographed by J. W. Gardner.

*Fairford Church.*

From Fairford a forty minutes' drive brought the excursionists to Kempsford, a church restored by the late G. E. Street, simple in plan, consisting originally only of nave and chancel, with tower between them and north and south porches towards the west end of the nave. These porches enclose fine examples of Norman doorways, north and south of the nave, which is in origin of Norman date, whilst the chancel is thirteenth century. The tower, treated internally with fifteenth-century groining, adorned with heraldic insignia of John of Gaunt and other Plantagenets, and with large windows, has one of these filled with stained glass by Mr. Kempe, of which one need say no more than the artist's name to imply that it is admirable. In the chancel is a canopied tomb of fifteenth-century date to an unknown Canon Regular, whose effigy is in fair preservation, though sculptured subjects above in the canopy have been wantonly mutilated. The design is clever and peculiar. Street added a south aisle to the chancel.

The last item on the programme for the day was Down Ampney, on the borders of Wiltshire and Gloucestershire, and the property of the Hungerford family from the time of Richard II. to that of Charles I. Of their residence, the gatehouse, said to have been built by Sir Anthony Hungerford, stands extremely complete; the mansion, of which the great hall bears date 1537, is much diminished, altered, and mutilated. Near the house is the church, cruciform in plan, the nave with aisles, the transepts and chancel without. The tower is at the west end, the porch on the south side. The nave arcade is transitional, the tower Early English with a perfectly plain decorated spire. There are monuments of interest, the richest that of Sir John Hungerford, the earliest said to be that of Sir Nicholas de Vilers or Valers, whose effigy is in chain armour. Adjoining is a canopied wall tomb with female effigy, said to be that of the wife of Sir Nicholas de Vilers or Valers. This family held the manor before the Hungerfords, and the monument is supposed to be of the date 1294. In the chancel on the north side is another wall tomb, with the slab bearing only a floriated cross of rich design. Amongst the most interesting things in the church are the examples of modern woodwork and carving in the rood screen, reredoses, and north transept screen, the last incorporating some remains of the old gallery front with the name and arms of Sir Anthony Hungerford.

On the return a halt of two minutes was made at Latton, on hearsay evidence that there was a good Norman doorway. The evidence was correct, but the remaining interest of the church was infinitesimal.

*Tuesday.*—Still cloudy and with promise of rain; the cooler temperature, however, fully compensated the members for the lack of sunshine, and rendered work possible. The day commenced with a train ride to Stroud, then a long ascent from the valley made the first part of the carriage excursion a pedestrian effort for the majority of the party, until Lypiatt Manor House was reached. This, though a sixteenth century house, has been so much altered and added to at different periods, and particularly at the beginning of the last century, that picturesqueness and variety of grouping are the main characteristics of the exterior. On the garden side particularly, subsidiary buildings, chapel, dovecote, and flowers make up a piquant composition. Internally the charm of the house is not in its architecture, but in its collection of pictures and bric-a-brac, a collection not so extensive as to be in the foremost rank amongst those of the mansions of England, but such as may be found in many a country house—a Paul Veronese, a Murillo, and so on in variety of selection; representative works of many artists rather than a striking series of any one master. The greatest charm of Lypiatt to the visitor lies rather in the gardens and their arrangement, their connection with and correlation to the house and the remaining buildings—the garden architecture, in fact, and above all the charming views of Cotswold hills and combes amongst which the house is placed. Historically Lypiatt is said to have belonged to the Whitingtons in Plantagenet times, then to the Wyes, and by purchase, in 1610, to Thomas Stephens, a view of whose house and estate by Kip is preserved, and assists one in judging how much of the existing is original. Lypiatt had a small share in the Parliamentary war, being occupied by the Roundheads and taken by the Cavaliers. A cannon shot mark is still shown. Lypiatt is also one of the traditional houses in which the Gunpowder Plot was hatched, but the wide experience of Architectural Association excursionists in country houses leads them to be sceptical about the Gunpowder Plot, the number of places in which it was traditionally concocted bidding fair to run a close second to the sleeping places of good Queen Bess.

From Lypiatt the carriages were accompanied rather than occupied over steep and rough by-roads, with a pause on the way to examine a stone slate quarry, still a going concern, until the midday halt was made at a farmhouse not on the programme, Lower Througham, a charming example of domestic work in the Cotswolds; seventeenth century in date, notable for a stone rain water-pipe with head and shoe complete, but delightful from its grouping of gables and mullioned windows, house and dovecote and its colour of weather-toned rubble, ashlar, and stone slate.

Leaving Lower Througham with pleasurable regret, the pedestrians, slightly assisted by their vehicles, journeyed to Wishanger, where a short stay only was made at the manor house, formerly the home of the Partridge family—a farm inferior in general charm to that last seen, but possessing some detail; fourteenth-century windows of small cusped form, and seventeenth-century porch with eighteenth-century sundial.

Then over hill and dale the party, on their way back to Cirencester, reached Edgeworth, where first of all the church was visited under the guidance of the rector, the Rev. Mr. Shaw, a nephew of Philip Hardwick and John Shaw, and therefore architecturally sympathetic.

The little church at Edgworth, consisting merely of nave and chancel, and south porch with western tower, has many points of interest. The east window is a thirteenth-century uncusped three-light lancet with cusped curtain arch, and below is a single-light small window, also with a "restored" cusped curtain arch. This is conjectured to have been the chancel window of an older building, the floor of which is 2 ft. 9 in. below the present. One window in the chancel—a single light—has a good piece of fourteenth-century glass, which, though not entirely old, has the entire figure of an archbishop, completely vested, with cross, and hand uplifted in benediction. An original stone altar slab is still used for its proper purpose, though carried on modern supports. On the south side are an interesting single sedile and piscina, partly restored from castings of fragments of the original. At the west end are some old pew ends, more quaint than beautiful, which have served as the model for the modern benches.

The old stairs to the rood-loft remain on the north side, and a modern rood-loft and screen of modern but fairly creditable design has been added to fit them.

After visiting the church the final walk of the day was the inspection of the house, originally built about 1700 by Nat. Ridler, but now just fresh from the hands of Mr. Ernest George, as an example of whose work it was therefore regarded as an example both of what he has added and what he has left. Mr. George has apparently had a free hand, has not been stinted in expense, and the work, therefore, is characteristic. The return to Cirencester was made through Lord Bathurst's famous and extensive park.*

## BRITISH ARCHÆOLOGICAL ASSOCIATION:

### CONGRESS AT NEWCASTLE-UPON-TYNE.

THE fifty-eighth Congress of the Association was commenced on Thursday, the 18th inst., under the patronage of the Duke of Northumberland, K.G., Dr. Hodgkin, LL.D., F.S.A., being President.

At eleven o'clock the members assembled at the Council Chamber of the Town Hall and were welcomed and formally received by the Mayor and Corporation. After the usual ceremonies, the Corporation plate and insignia, or what remains of them, were inspected. Previous to the establishment of the Reformed Corporation under the Act of 1835 Newcastle was rich in ancient plate and earthenware and other objects of antiquarian value and interest, but in 1836 most of them were sold by auction. Amongst those which remain and were laid out for exhibition were a handsome silver loving cup and salver dated 1681, a mace of the same period, and a seal of James I. One of the most valued treasures now possessed by the Corporation is a finely chased and gold-mounted, two-handed state sword, of the time of Richard II. A description of this sword, by Mr. St. John Hope, F.S.A., was read by Mr. Patrick, hon. Secretary. Newcastle possesses some thirty charters, and three of these, which were produced by the Town Clerk, were of considerable interest. One granted in the sixteenth year of Charles II.'s reign contains a portrait of the monarch, which was contrasted with another portrait of the same monarch upon a second charter granted some twenty years later. The charters are on vellum, and were richly illuminated originally. The Town Clerk explained that as the Corporation was engaged in litigation, no reading of the charters was permissible. After the President, Dr. Hodgkin, had duly acknowledged the Mayor's welcome, a move was made to the Cathedral Church of St. Nicholas, the first place to be visited in the perambulation of the city, to which the remainder of the opening day was devoted, the presidential address being deferred to the evening. Through some misapprehension there was no one present to describe the building. Canon Southwell, however, received the party, and expressed his regret that he, having only just come into residence, was a stranger himself to the history of the church, and was unable to attempt its description. Mr. Thomas Blashill, a V.P. of the Association, thereupon pointed out briefly the more prominent features of the edifice, and sketched in outline its history. The church was consecrated in 1091 by Osmund, Bishop of Salisbury, nephew of the Conqueror; but the original building was destroyed by fire in 1216. The present edifice dates from about the middle of the fourteenth century. A thirteenth century capital enclosed in the wall on the north side internally, and *in situ*, apparently is the only relic left of the earlier church. The nave and choir arches have no capitals, all the work is very plain, but a dignity and repose in the design of the church is agreeable to the eye. The choir is of the second half of the fourteenth century. The famous Lantern Tower crowned with its graceful "steeple" is the great glory of St. Nicholas. There are some six or seven examples in all of this form of steeple, but none are equal to that of Newcastle. It was erected in the middle of the fifteenth century by Robert Rodes, who is said to have been a Prior of Tynemouth, but he is also said to have been a lawyer and a receiver of customs of the Port. When the town was besieged by the Scots in 1644 this beautiful steeple was threatened with destruction by the Earl of Teren, if it did not surrender, but the brave defender, Sir John Marley, was equal to the occasion. He placed the Scotch prisoners in the lantern of the tower and told the Earl that if he destroyed the beautiful structure he would at the same time bathe his hands in the blood of his own countrymen who were placed there on purpose, "either to preserve it from ruin or to die along with it." There are some fine Jacobean monuments to members of the Maddison family and an effigy of a knight, which, from the style of the hauberk and surcoat, Mr. Blashill considered to belong to the early part of the reign of Edward II. It is not known to what family the knight belonged, but Edward II. is recorded to have paid for the funeral services of one Peter-le-Marechal, who was shield-bearer to Edward I., so it is likely this effigy represents that individual. In the Eastern chapel is a fine painting, said to be by Tintoretto, the subject being the "Washing of the Disciples' Feet." In the vestry is preserved a beautifully-written and illuminated Bible, the work of one of the monks of Hexham some 700 years ago.

St. John's Church was next visited, and Mr. Chas. Lynam, F.S.A., pointed out the chief features of the building. A twelfth-century window head in the north wall of the chancel indicates that the church is older than any part of the cathedral, but its actual date is unknown. The tower is at the west end, and is an engaged tower, as at St. Nicholas. The transept aisles are on the west side, and there were no eastern chapels.

After luncheon, the party assembled in the great hall of the castle keep, where Mr. Cadwallader J. Bates told the history and dates from 1172-1177. The members next wended their way to the Black Gate, not far from the castle, wherein are most carefully preserved the fine collection of Roman altars, inscriptions, and other antiquities belonging to the Newcastle Society. The Black Gate is said to derive its name from Patrick Black, who lived in 1617. It was the main entrance to the castle, and is considered to be the work of Henry III. about 1247. Leaving the castle, the party proceeded, under the guidance of Mr. Olive Heslop, one of the Secretaries of the Newcastle Society of Antiquaries, to the Trinity House, noticing on the way the south postern, a bit of the old castle said to be the only remaining Norman postern in England. In the chapel of the Trinity House, which is said to date from 1490, are some good carved bench ends. Mr. Heslop then conducted the party round the west walls, and pointed out the various features. Notwithstanding the destruction which, in the last fifty years, has taken place, owing to the march of modern improvement, Newcastle still retains a considerable portion of its old walls with their towers and gates, and in some parts its embrasures and parapets are intact and in very fair condition. A thunderstorm put an end to the perambulation of the city, and the party returned to the hotel to prepare for the conversazione at the Durham College of Science to which the Congress was invited by Sir Benj. C. Browne and Dr. Hodgkin, and where the President delivered his address, of which we take the following *résumé* from the *Newcastle Daily Leader*:—

Dr. Hodgkin, in the course of his address, welcomed the representatives of the British Archæological Association, and said he had a firm belief in the advantages which learned societies both conferred and received by these itinerating visits to different parts of England. In considering what should be the subject of his address to them that evening, he had thought that a paper entering in detail into some one special subject would not so efficiently serve the purposes of the congress as a more general survey of the history of the county, prepared with some special reference to the scenes to which each day's excursions would conduct them. At the risk of being considered utterly superficial and of insulting a learned audience by the repetition of facts which "every schoolboy knows," he would give a slight outline sketch of the history of Northumberland. He thought they had to confess that, as compared with some other districts of England, they were not rich in pre-historic remains. They had some well-marked British villages or hut circles. They had many barrows, containing evidences of methods of disposing of the dead—both by sepulture and cremation. They had also some remarkably fine specimens of those mysterious cup markings incised on rocks which had aroused so much interest among antiquaries, and which, whatever might have been their purpose—religious, epigraphic, or simply artistic—might, he supposed, be safely stated to be the oldest remains of any kind to be found in Britain. But as they did not propose to make any of these prehistoric monuments the goal of their pilgrimage during the ensuing week, he would not longer dwell upon them, nor invite them to discuss the interesting question whether they were to be assigned to the earliest inhabitants of our island, or rather to their better known Celtic conquerors. For convenience' sake, the year of our Lord 100 should be their starting point, and he would divide the eighteen centuries which had since glided by into six periods of 300 years each, and describe as briefly as he could the leading features of each of these six periods. The Roman period lasted, roughly, from A.D. 100 to A.D. 400. In these three centuries the history of Northumberland was practically the history of the great Roman Wall, and of the Roman roads which ran either along it from sea to sea or across it from the river to the mountains. Dr. Hodgkin then sketched the principal events of the period—the work of the Roman soldiers, the ravages of the Caledonians, and, finally, the Roman exodus. There could be no difficulty, he continued, in deciding which of the excursions arranged for their party best illustrated the period he had thus summarily delineated. On Monday they were invited to visit the two finest camps on the line of the Wall—Chesters, once known as Cilurnum, overlooking the lovely glen of the North Tyne and Housesteads, or Borcovicus, seated on the crest of a high basaltic wave, commanding a wide view of Northumbrian moorlands. The former of these camps they knew to have been garrisoned by a troop of Asturian cavalry from the North of Spain; the latter by a cohort of Tungriens from the country which we now call Belgium. But though the Roman Wall was a military work, and the camps which they would visit were camps and not graceful cities, he prayed them not to let their imaginations repeople them only with scenes of war and bloodshed. In the centuries of Roman dominion there were undoubtedly long intervals of comparative tranquility. So large a force of fighting men—not less than 10,000—with all their camp followers, wives, and children settled on the narrow neck of land between Tyne and Solway, must have exerted a powerful influence on the economic condition of the country. He had sometimes startled visitors by suggesting that the middle region through which the wall runs was far more populous, and possibly more prosperous, in the second century after Christ than it is at the present day. His next period must be called "Chaos, and the Northumbrian Kingdom." For the first century and a-half after the departure of the Romans nothing is known with any certainty as to the history of Northumbria. The pall was partially lifted for us when Ida, the Anglian chieftain, first of Northumbrian kings, builds his wooden burgh on the high basaltic rock of Bamburgh. And yet even then, though they heard something of the succession of kings, and of wars with the Britons of Redesdale, there was for us no history of living interest till the year 617, when Edwin of Deira began his too short, but glorious, reign. Edwin, Oswald, Oswy—these three Christian kings of Northumbria, whose reigns covered the better part of the seventh century (617-670), seemed likely to found a dynasty, which would extend its rule over the whole of Southern Britain. But for some obscure and unexplained events in the eighth century, Bamburgh might have been the London, or at any rate the Windsor, of our island. And if Bamburgh was the Windsor of that great Northumbrian dynasty, Holy Island might fitly be called its Westminster. Having referred to St. Aidan and St. Cuthbert, Dr. Hodgkin said the death of the latter saint brought them to the year 687—very near the end of his second period, but he must be excused a little overlapping, for the kingdom of Northumbria lasted for a century longer, and that closing century, the eighth, though in many ways less glorious than that which preceded it, was illumined by the sanctity and genius of the man who should always be placed in the first rank of English scholars—the Venerable Bede. With what existing edifices did they associate the memory of that great man? The answer at once rose to their lips—With the two churches of Monk-

* To be concluded next week.

wearmouth and Jarrow. He feared they would see both places grievously changed from that quiet loveliness which they may have worn on a spring morning when Bede thus vibrated between them. "Sweet Jarrow" especially was now overhung with smoke, and resounded to the ringing blows of the sons of Tubal Cain. The chapter of Northumbrian greatness must be considered closed, at latest, in the year 793, when Holy Island was ravaged by the terrible Danish pirate, Ragnar Lodbruk. Dr. Hodgkin next dealt with the subject of the Danish devastations in Northumbria, suggesting that at the present day the ordinary Northumbrian inhabitant was a different being from what he would have been if, during two critical centuries, Northumberland had not been overshadowed by the ghastly-flapping wings of the Danish raven. For after the Danes came the awful wasting of the lands north of the Humber by the order of William the Bastard, and then, at no great interval, the Border wars with Scotland. A people who for so many centuries had much ado to live at all could hardly be expected to develop the arts that adorn life—poetry, music, and painting—like their more fortunate brethren of the South. The world little knows what it may have lost when Holy Island was ravaged by the Danes, and when Jarrow and Monkwearmouth were given to the flames. Proceeding to give briefly the story of the migration of the body of St. Cuthbert until it reached Durham, Dr. Hodgkin said they had now accomplished half of their review, but the remaining three stages would be more rapidly traversed. He had purposely lingered a little over these 900 years in order to remind them and himself of the fact which, to him, though well known, was ever strange and difficult to apprehend, that the Norman Conquest came somewhere more than half-way down in the history of our country—that there was really a longer interval from Julius Agricola to Canute, the Dane, than from Canute to his present Majesty King Edward VII. Let them, then, take their stand at the year 1000, that fateful year which, as men deemed, was to be the end of the world, and see what were the characteristics of the new era upon which they now entered. Though not the end of the world, it was potentially the end of the old order of things in old Saxon England. Ethelred the Unready was now contracting that close alliance with Normandy which caused him to seek a refuge in that land from the victorious Danish King which caused his son Edward the Confessor, son of a Norman mother. to be more Norman than English in heart, and which led by no doubtful chain of causes and effects to the great Norman Conquest of 1066. The Normans came, and whatever other thing they might have left unchanged in our island, they certainly changed the character, as well as enormously increased the number, of its fortresses. He believed it was generally admitted that the pre-Conquest fortresses, the Saxon Burghs, had consisted chiefly of a high mound of earth, surmounted by a wooden palisade, without masonry. The Normans introduced the massive rectangular keep, or its sister, the lighter shell keep. He thought he might term that, their fifth period, the age of castle building, remarking at the same time that here, too, he was not able to avoid a certain overlapping of periods, as the year 1300, which should end his castle building age, marked instead the transition from the old Norman type of the solitary and massive keep to the later concentric type of castle, with barbican, gatehouse, curtain wall, postern, and all the other appliances for combined and converging defence, with which an inspection of almost any fourteenth century castle made them familiar. Now, for that period no excursion could be more instructive than that which they would take the following day, when they would visit, under the most competent guidance, the two great castles of Alnwick and Warkworth, the visible memorials of the greatness of the feudal barons of the house of Percy. But, moreover, the "New Castle" which gave our city its name, and which they had visited that day, erected by Henry II., the nearly contemporary castle of Bamburgh, which, he trusted, they would visit on Tuesday, and the Castle Palace College of Durham, which would be the goal of their pilgrimage on the day following, would, he trusted, be considered by them not unworthy specimens of that triumph of defensive architecture (in the days previous to the introduction of villainous saltpetre), the keep of the masons from Normandy. Of course, while emphasising the military character of most of the Norman remains in our district, he had not altogether forgotten their ecclesiastical glories. To mention the great minster of Durham and the daughter-mother abbey church of Holy Island was to call up the remembrance of some of the noblest and most daring of Norman church builders. His fifth period (1300 to 1600) he would call the period of the Border wars. And here, at last, they came to a time in which there was none of what he had called overlapping. In 1292 John Baliol did homage to Edward I. for the crown of Scotland. By 1296 the lord had goaded his new vassal by countless insolences into rebellion. By 1305 a part of the dismembered body of the patriot Wallace was displayed at Newcastle-on-Tyne. Scotland was changed, happily not for ever, from a friendly neighbour into a bitter and vindictive enemy. The era of the Border warfare, with all its romance and all its misery, with all its deeds of heroism and all its squalid lawlessness, with its ballads, its poverty, its sharpening up of international dislikes, jealousies, contempts, this strange wild archaic era had begun, and was to endure for three centuries, till it was ended in the springtide of 1603 by that auspicious journey by which James Stuart of Scotland, great grandson of Henry VII. of England, crossed the Border amid the acclamations of his new as well as of his old subjects. It was on April 9 that he entered our town, when the mayor and aldermen knelt before him and presented him with that pleasantest of all testimonials, a purse of gold, the tradesmen and their apprentices, the flatcaps rending the air meanwhile with such vociferous huzzas that James, with unwonted modesty, whispered to one of his Scottish lords, "By ma soul, these men are eneuch to spoil a guid King." He (the speaker) had now brought his hearers to the happy ending of these three centuries of feud, but he asked them to think what they must have meant practically to the daily life of the dwellers in Northumberland and the sister county of Cumberland. Not as it was to the rest of England, one great, solemn military expedition every ten or twenty years, with its chances of glory or plunder to be won on the other side of the Tweed, but one unceasing, monotonous story of raids and petty plunderings; for the herdsman no certainty that ere nightfall the "raiders" would not appear in his valley and drive off the best of his cattle; for the townsman the irksome duty of mounting guard on the town walls, the occasional agony of seeing his dwelling wrapped in flames and the accumulations of a lifetime destroyed by the ravages of the Scots. To illustrate the romantic, but unhappy, Border time, the secretaries had arranged an excursion for the 25th inst., when he hoped to have the honour of conducting them over the ever-memorable battlefield of Flodden. And now, for the last three hundred years (1600-1900) what could they call them but, notwithstanding some interruptions from civil war and from two soon-suppressed rebellions, on the whole an era of peace and prosperity. For them he could only use the hackneyed quotation, "Si monumentum quaeris circumspice." The wilderness of houses in the midst of which they met, the bridges, the factories, the ironfoundries, the long lines of dull streets, lined with grim classical architecture, the smoke, the clangour, the Central Railway station — that maelstrom of man — all or nearly all of this busy world has sprung into existence since the Mayor of Newcastle-on-Tyne kneeled to James Stuart, and to most of these there is no corresponding ray in the archæological spectrum. Only, since the beginnings of all mighty changes should have an interest at any rate for the historian, he would ask them when on Monday they were travelling westward by the Newcastle and Carlisle railway to get their guide to point out to them a little inconspicuous house on the north bank of the Tyne between Ryton and Wylam. There lived for some years, and not far from it was born, the man who, by a simple mechanical invention, had revolutionised both worlds, that of commerce and that of war, the only man, he thought they might say, who had been the cause of such changes in the surface of our globe, as with telescopes such as we possess, might be seen from the nearest planet —the inventor of the locomotive, George Stephenson. He (Dr. Hodgkin) would gladly have described to them at some length what archæology had achieved and suffered during that most changeful period, how some of our most interesting monuments had fallen victims to what was called architectural or industrial "improvement," and how, on the other hand, a noble succession of students — Horsley, Hodgson, Bruce, and their living successors (whom he named not, though he trusted they would soon make their personal acquaintance) —had carried on the work of Camden and of Cotton. In conclusion, he expressed the hope that the arrangements for the survey of the county might be successfully carried out, and that their visit to Northumberland might be in the retrospect not the least agreeable, nor the least interesting, of the memoirs of the Archæological Association.

## BUILDERS' BENEVOLENT INSTITUTION:

### ANNUAL MEETING.

THE fifty-fourth annual meeting of the Builders' Benevolent Institution was held on Thursday, July 18, at the offices, 35, Southampton-row, Bloomsbury, W.C. Mr. J. T. Bolding presided, supported by Messrs. C. Bussell, E. V. New, Thos. Stirling, T. Stirling, jun., J. Carmichael, and other friends of the charity.

The Secretary (Major R. A. Brutton) read the Annual Report, which stated that when the unprecedented pressure of the times upon all classes of society was remembered, and how the great charities of the Metropolis had suffered, it was a subject of congratulation that this Institution had not been more seriously affected. At the same time, the falling-off had been chiefly in the annual subscriptions, which must always be the mainstay of the charity. It was, therefore, hoped that those gentlemen who already subscribed would use their influence with any friends who had not done so. The Institution owed a debt of gratitude to the President, Mr. John Greenwood, C.C., for his efforts in making the Annual Dinner such a financial success. The Committee had again been able to elect all the eligible candidates this year, and it was a source of thankfulness that the members seeking election had not been sufficiently numerous to entail the necessity of a contested election. It was, however, expected that the number of applicants would be greater in the future, in consequence of Rule III., Section I., altering the age of candidates from sixty to fifty-five, having been sanctioned at the last general meeting. Only three deaths amongst the pensioners had occurred during the year, all of whom were men; while five pensioners had been elected. The annual dinner would be held at the Carpenters' Hall, on Thursday, November 14 next, when Mr. James Carmichael, of Wandsworth, who had consented to be President, would be in the chair.

Mr. Thomas Stirling moved the adoption of the report and accounts, adding, that so long as they were on the right side, and elected all the applicants, he believed the subscribers would be well satisfied.

Mr. New seconded the motion, which was unanimously agreed to.

Mr. C. Bussell proposed a cordial vote of thanks to the retiring president, Mr. John Greenwood, for the valuable services rendered to the charity during his year of office. It must be a satisfaction to Mr. Greenwood to leave the Institution in a somewhat better position than when he took office, and he would move that he be requested to become a member of the Committee.

Mr. T. Stirling seconded the motion, which was carried by acclamation.

Votes of thanks were also passed to the Vice-Presidents, the Trustees, the Treasurer (Mr. J. Howard Colls), the Committee (the retiring members being re-elected), and to the hon. auditors (Messrs. J. T. Bolding and R. J. Ward).

The Chairman next proposed the election of Mr. James Carmichael as President, and congratulated the meeting on being able to get so well-known a man connected with the building trade to take the post.

Mr. Stirling seconded the resolution, which was agreed to *nem. con.*

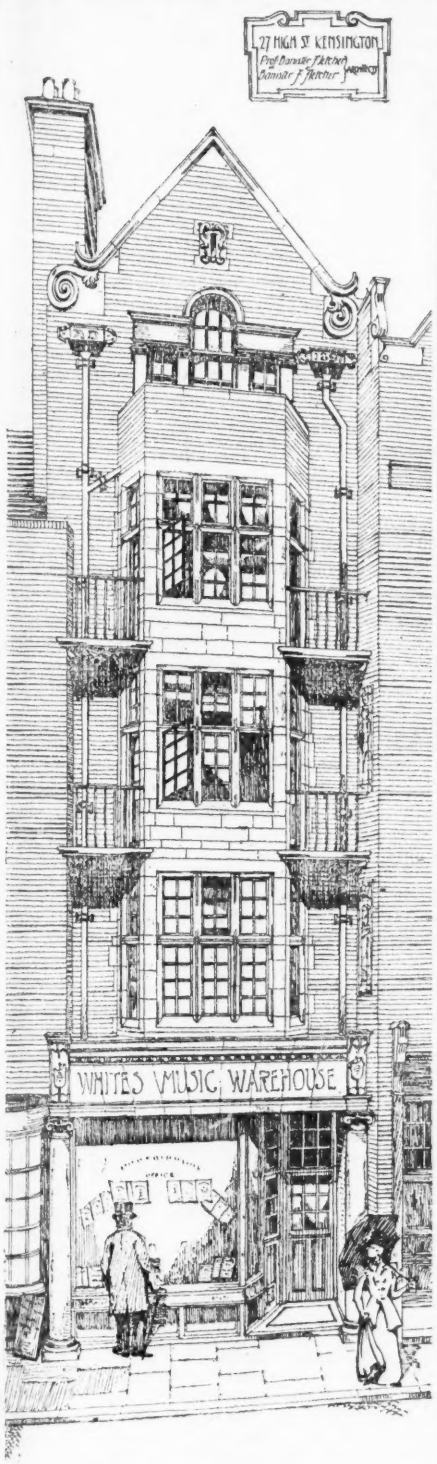
Mr. Carmichael replied, and announced his determination to do his utmost for the Institution.

A vote of thanks to the Chairman closed the proceedings.

## A SHOP FRONT, KENSINGTON.

THESE premises, forming No. 27, High-street, Kensington, have recently been erected, and consist of a music shop and practising-rooms on the ground floor, the upper floors being occupied as flats.

The front has its boundaries recessed in the upper portion, and a bay window taken up for three stories, thus forming a balcony on either side. The return walls have been treated with




*A Shop Front, Kensington.*

glazed tile panels representing famous musicians, by which means a certain amount of colour and interest is given to the façade.

The materials used are Lawrence's red bricks and Kedon stone, and steel casements fitted with leaded lights for glazing. The builder was Mr. A. H. Bird, and the works were designed and carried out under the superintendence of the architects, Messrs. Banister Fletcher & Sons.

PALESTINE EXPLORATION FUND.—At the recent annual meeting of the Fund, Mr. J. D. Crace was unanimously elected Hon. Secretary *vice* the late Sir Walter Besant. Dr. Bliss and Mr. MacAlister are preparing a detailed and illustrated description of their excavating work at Tell-es-Safi and in the vicinity, to form a companion volume of the "Memoirs" of the survey of Western Palestine. It is anticipated that the Sublime Porte will grant a renewed firman for the continuance of operations at Tell-es-Safi

## ASSOCIATION OF MUNICIPAL AND COUNTY ENGINEERS.

A MIDLAND Counties district meeting of the members of the Association of Municipal and County Engineers was held at Swadlincote on Saturday, July 20. On arrival at the Council chambers from Church Gresley Station the members were received and welcomed by the Chairman and other members of the Council. The President (Mr. E. G. Mawbey, C.E., of Leicester) presided, and amongst those present were Messrs. J. Price (Birmingham), C. F. Wike (Sheffield), G. Hodson (Loughborough), W. T. Creswell (Weedon), T. W. A. Hayward (Sudbury), G. F. Lynam (Burton-on-Trent), S. S. Platt (Rochdale), P. O. Fell (Norwich), A. D. Greatorex (West Bromwich), J. T. Eayrs (Birmingham), and others.

Mr. J. H. Stevens, Chairman of the District Council, offered the members a hearty welcome to what he described as practically a new district.

The President, having acknowledged the welcome accorded to the Association, moved a vote of sympathy with the three members of the Association — Messrs. J. S. Pickering (Nuneaton), F. S. Yates (Waterloo), and Coates (Market Harborough)—in the motor accident they met with at Leicester, with sincere wishes for their recovery.

Mr. T. Kidd, A.M.Inst.C.E., surveyor and waterworks engineer, read a paper on the "Public Works of Swadlincote." He said that to-day Swadlincote was looked upon as the largest sanitary-pipe producing district in the world, and that day they would have the pleasure of visiting one or two of these typical works through the kindness of Messrs. J. Woodward, Limited, and Messrs. T. Wragg & Sons, Limited, who had consented to keep open their works so that the members present might have an opportunity of witnessing the actual manufacture of the appliances now so common to municipal and sanitary engineers. There were also splendid seams of fireclay from which the large Sheffield steel and iron firms were supplied with firebricks, which spoke as to the quality of these for withstanding intense heats. The finer kinds of crucible clay were mixed similarly to coal and were in great request by steel-smelters, both in England and abroad, and had even been purchased by the progressive Japanese. A later industry was the manufacture of glazed bricks. Swadlincote had a large export trade with France, Germany, Belgium, and other Continental countries, also with India, Africa, South America, Australia, and elsewhere. The district, considering the nature of the employment, might be looked upon as healthy, the death-rate for 1900 being 14·46 per thousand. The population, which was 4,094 in 1851, was 18,014 in 1901. The main sewerage system was designed and carried out by the late Mr. Marshall at a cost, including the purchase of land, of 30,770*l*. The ventilation of the sewers by open gratings at the street level had been in many instances a source of constant complaint owing to the stench, therefore a system of ventilation by means of cast-iron shafts with air inlets had been adopted and, where carried out, had given every satisfaction. The sewage was delivered by gravitation on to the sewage farm, 64 acres in extent, laid out in beds with distributing carriers and chambers, and was underdrained 5 ft. to 6 ft. deep, by 9-in. pipes laid herring-bone, 66 ft. apart; the crops grown thereon being rye grass, oziers, mangolds, turnips, carrots, cabbages, celery, potatoes, &c., part of the produce being consumed on the farm and the remainder sold. The cost of working the farm for the year ended March, 1900, including rates and taxes, was 578*l*. 7s. 10d., and the receipts for produce sold 557*l*. 9s. 2d., leaving a balance of 20*l*. 18s. 8d. to be provided by the rates. The water supply was derived from the Milton Watershed, and after being pumped into Woodville reservoir gravitated into the district, the consumption being equal to an average of about 10 gallons per head per day. The gasworks were purchased by the Urban District Council, the cost, with extensions, being 47,833*l*. 19s. 11d. In the making up of private streets the Council had in every case assisted the property owners where the streets had been in existence any length of time and built up, by paying the whole cost of storm-water sewers, gullies, branch drains, street lighting, &c. The average amount charged to the owners had been about 20s. per yard lineal on a 30-ft. street. The joint waterworks at Milton were designed by Messrs. G. & F. W. Hodson to supply a population of 27,000 persons at 20 gallons per head per day; the hardness of the deep-seated water being 20·12 deg. before boiling and 6·64 deg. after, while the water from the upper gravels was only 15·89 deg. before boiling and 4·69 deg. after. In order to reduce the hardness it was decided to adopt the Archbutt-Deeley softening process, the hardness being principally due to carbonates and not to the sulphate of lime. The works for abstracting the water were of the simplest nature, and consisted of a series of Abyssinian tube wells distributed over the site in such a manner as to intercept the upland water, and of the construction of filter tunnels through the adjoining lands. The well was 20 ft. internal diameter, and was sunk through the gravel, which was 23 ft. in thickness, down to the red marl. Filter tunnels were constructed and formed by excavating close-timbered trenches down to the marl, and all undulations were cut through so as to allow a true gradient of 1 in 300 throughout. The water, after being treated and softened, was pumped through a 12-in. rising main to the Woodville reservoir. Two sets of 9½ in. by 15 in. treble ram pumps were provided, and when working together were capable of delivering 45,000 gallons per hour to a vertical height of 420 ft. through the rising main. Since the works were brought into full operation the water had undergone a change, the hardness being now not less than 26 deg., and besides being very hard contained in solution a certain amount of iron, which precipitated on exposure of the water to light and air. The iron was successfully and completely removed, and the hardness of the water reduced from 26 deg to an average of 9 deg. The mechanical operations involved with the softening and purification of hard water by the Archbutt-Deeley process included the preparation of the reagent, the mixing of it with the hard water, the separation of the precipitate, and the subsequent bicarbonating of the softened water. The apparatus and process employed were of the simplest possible character compatible with efficiency, and were applicable to the removal of both temporary and permanent hardness. The precipitate, by lying at the bottom of the tank, became segregated into coarse flakes, which, when stirred up and allowed to settle again, carried down the fine particles of fresh precipitate so rapidly that in less than thirty-five minutes the water cleared itself to such an extent that the suspended matter remaining, even at a depth of 6 ft. from the surface, did not exceed 1 grain per gallon. The apparatus was designed to treat 45,000 gallons per hour, which was easily softened and purified in four tanks 10 ft. 6 in. deep, each having a working capacity of 27,000 gallons, being three-fourths of its depth, about 2 ft. 6 in. of water and mud being allowed to remain when the water was drawn off, while a margin of 6 in. at the top was left in filling, which was done by means of a supply-pipe from the hard-water tank. The reservoir, which had a capacity of over one million gallons, was situate to the north-east of Woodville, at an elevation of 550 ft. above O.D. The total cost of the works was 30,502*l*. 9s.

Mr. J. Price, Birmingham, moved a vote of thanks to Mr. Kidd for his paper. It referred to a district which had been nicely progressive—no great jump, but still steadily increasing in population. It was evident the District Council, since the amalgamation, had been successful—at any rate the death rate seemed to show that, because in 1894 they had a death-rate of 17·57, and in 1900 it had dropped to 14·46, which pointed to useful sanitary work. That the District Council had not been behindhand in facing expenditure they could see by the spending of 30,000*l*. on sewerage and sewage disposal—work which came out at 2*l*. per head of the population, which was considered rather heavy. On looking through the tabulated statement of the gasworks they could not help noticing the very large apparent leakage, equal to 23 per cent. of the make, if he read the figures correctly.

Mr. C. F. Wike, Sheffield, who seconded, said, with respect to Urivale-street works, he had experienced great difficulty in Sheffield with the dedication of streets. He had eighty miles of undedicated streets, and they had proposed almost every kind of construction to meet the owners who had to pay the cost.

But whatever kind of construction they adopted it was always unsatisfactory unless it was done for nothing. They had made rebates to owners, with the result that they were running close to being the highest rated town in England.

Mr. J. T. Eayrs, Birmingham, also called attention to the enormous amount of gas unaccounted for. He remembered when he was a public officer the leakage at West Bromwich was between 6 and 7 per cent., and that was a mining district which might fairly be compared with Swadlincote.

Mr. A. D. Greatorex, West Bromwich, said the recent report of the Gas Committee showed a loss from leakage of 4·36 per cent. For the loss at Swadlincote there must be some reason, and it would pay the Council to find it out and remedy it.

Mr. S. S. Platt, Rochdale, said as to the price of sewerage and sewage disposal he thought the Council ought not to consider the price excessive; 2*l.* per head was not excessive when dealing with a small population. He congratulated Mr. Kidd upon the good results of the sewage farm, for to work the farm and get a good effluent with a loss of only 20*l.* a year was doing very well indeed.

Mr. Lynam, Burton-on-Trent, expressed his surprise at the small cost of construction of streets and the small quantity of water consumed per head of the population.

The President having closed the discussion, a hearty vote of thanks was accorded to Mr. Kidd for his paper.

Mr. Kidd, on replying, said the county medical officer (Dr. Barwise) had said the effluent from the Swadlincote sewage farm was the best in the county of Derby. With respect to the cost of private street works, they had all the underbedding given them and had only to cart it. With reference to the loss of gas, the district was subject to mining operations and in one part was really pulled to pieces, which was the reason for the loss of 23 per cent.

The members then visited the sanitary and glazed brickworks of Messrs. James Woodward, Limited, and the sanitary pipeworks and claypits of Messrs. T. Wragg & Sons, Limited, and were afforded an opportunity of seeing all the process of manufacture of the various productions of both firms. They then drove in brakes to Bretby Park, the residence of the Earl of Carnarvon, where they were entertained by the two firms previously mentioned to luncheon in the park. Mr. T. Wragg presided, and after luncheon several toasts were honoured. Following the luncheon the members visited the pumping station and witnessed the process of softening the water by the Archbutt-Deeley process. The meeting was in every respect a most successful one.

## THE LONDON COUNTY COUNCIL.

THE usual weekly meeting of the London County Council was held on Tuesday in the County Hall, Spring-gardens, Mr. A. M. Torrance, Chairman, presiding.

*Loans.*—On the recommendation of the Finance Committee, it was agreed to lend Fulham Borough Council 5,875*l.* for acquisition of and laying-out Pryors Bank as an open space; Hackney Borough Council, 8,000*l.* for the purchase of land for an electric lighting station and destructor, and 34,200*l.* for electric light installation and dust destructor; Hammersmith Borough Council, 1,900*l.* for the purchase of electric light meters; Kensington Borough Council, 16,440*l.* for contribution to street improvement; Lambeth Borough Council, 10,800*l.* for paving works; Poplar Borough Council, 5,980*l.* for paving and channelling works; Southwark Borough Council, 20,990*l.* for paving works; Stepney Borough Council, 12,000*l.* for the purchase of a wharf; Woolwich Borough Council, 20,000*l.* and 27,805*l.* for electric light works, street lighting, and meters; Battersea Borough Council, 7,860*l.* for street improvement; Hampstead Borough Council 9,623*l.* for electric light installation; Islington Borough Council, 2,500*l.* for the same purpose, and 2,018*l.* for the purchase of electric light meters; and Lambeth Borough Council, 2,348*l.* for paving works.

*The Chief Engineer.*—It was decided to advertise for a new chief engineer at a salary of 2,000*l.* to fill the vacancy caused by the resignation of Sir Alexander Binnie.

*Tramways.*—The Highways Committee reported that difficulties had arisen in regard to the projected generating station at Camberwell, for the purposes of which it had been intended to acquire property at a cost of 80,000*l.* They therefore recommended an alternative scheme at Greenwich which would involve only 30,000*l.* cost as to land, but in regard to which there was the disadvantage of distance from the centre of the tramways system and consequent leakage of current.

It was agreed to apply for Parliamentary powers next session to acquire compulsorily the land required at Greenwich.

The meeting was made special for the consideration of resolutions to acquire compulsorily certain portions of the tramways owned by the South London Tramways Company at Wandsworth and Battersea, and by the Woolwich and South-East London Tramways Company at Woolwich and Plumstead.

The purchase resolutions were adopted without discussion.

*The Tooting Housing Scheme.*—The Housing of the Working Classes Committee recommended a vote of 30,000*l.* for paving and sewer works on the Totterdown Fields Estate, Tooting, which is in course of laying out for the erection of industrial dwellings.

The recommendation was agreed to.

*The Widening of Piccadilly.*—In connexion with the proposed widening of Piccadilly between Hyde Park Corner and Walsingham House, the Improvements Committee brought up a report and the following recommendation:—"That the working drawings, specification, and estimate of the cost—29,400*l.*—of the paving and other works connected with the widening of Piccadilly between Hyde Park Corner and Walsingham House, by the addition to the public way of the strip of the Green Park in question, be referred to the Manager of the Works Department, with a view to the work being carried out without the intervention of a contractor."

Mr. W. H. Dickinson said the widening proposed would not do away with the traffic difficulties, and he moved, as an amendment, to preface the recommendation by the following words:—"Provided that the plans be so amended as to provide for the retention of the greater number of the trees at present proposed to be cut down." He pointed out that the cutting down of trees was a serious matter, and he suggested that the trees might be left standing in the road.

Lord Monkswell seconded the amendment, and said every effort ought to be made to get the Government to retain the trees.

On a division there was a tie, 56 for and 56 against the amendment, and the Chairman declared the amendment not carried.

On the motion of Mr. Cornwall, it was agreed that the Improvements Committee again confer with the Office of Works, with a view to saving more of the trees than now contemplated.—As thus amended, the recommendation was agreed to.

*Strand Widening.*—The Improvements Committee recommended that the Council should vote 50,000*l.* towards the cost of widening a portion of the Strand to 80 ft. at Nos. 89, 90, and 94, to 104, east of the Hotel Cecil, which was proposed to be carried out by the Westminster City Council. The Committee reported that it might be possible at an early date to deal with three other properties.

The recommendation was agreed to.

*The View from Richmond Hill.*—Replying to Mr. Burns, M.P., Lord Monkswell said he had received a letter on behalf of the owners of the Richmond Hill property, offering to sell the property in question to the Council for 70,000*l.* The conditions attached to the offer were that a deposit of 3,500*l.* should be paid down on the signing of a formal contract, which should be forfeited if the Council did not complete the purchase by December 31 next. The balance of the purchase money was to bear interest at the rate of 4 per cent. The owners, on their part, agreed to stop all development work until December 31. That letter would be considered by the Parks Committee on Friday.

*New Technical Institutions.*—The following recommendations of the Technical Education Board were agreed to:—

(*a*) That the plans, specifications, and quantities in respect of the Poplar Technical Institute be approved; that, in the event of the manager of the Works Department being prepared to carry out the work in connexion with the buildings at the amount of the architect's estimate, the Technical Education Board be authorised to refer the same to him, and that in the event of his not being so prepared the Board be authorised to invite tenders for the work.

(*b*) That the plans, specifications, and quantities in respect of the Brixton Technical Institute be approved; that, in the event of the manager of the Works Department being prepared to carry out the work in connexion with the buildings at the amount of the architect's estimate, the Technical Education Board be authorised to refer the same to him, and that in the event of his not being so prepared the Board be authorised to invite tenders for the work.

*Hampstead Fire Station.*—The Fire Brigade Committee recommended, and it was agreed, that the estimate of 1,736*l.* submitted by the Finance Committee be approved; that the Council do sanction an expenditure of 1,620*l.* for adapting for the use of the Brigade the premises erected on plot 45, Holly-hill, Hampstead; that the work be executed by the Council without the intervention of a contractor; and that the drawings, quantities, specification, and estimate be referred to the manager of works for that purpose.

*Shallow Underground Tramways.*—A report was submitted by the Highways Committee to the effect that the electrical engineer and the tramways manager be authorised to visit America at the expense of the Council, to inquire into the system of shallow underground tramways, and also as to the latest system of tramway traction in America. The matter arose in connexion with the suggestion to make a shallow underground tramway from Westminster to Finsbury-pavement, *via* the Strand, Fleet-street, and Cheapside.

Replying to Captain Swinton, Mr. Benn said the officers could pay attention to the developments in motor-cars in America if they had the opportunity.

*Victoria Embankment.*—It was agreed to expend 5,660*l.* for remetalling the carriageway of Victoria Embankment.

*Rebuilding No. 17, Fleet-street.*—On the recommendation of the Historical Records and Buildings Committee it was agreed that the work of rebuilding the rear portion of No. 17, Fleet-street, and of executing such works as may be required to the front portion, be carried out without the intervention of a contractor, and be entrusted to the Works Department upon the basis of the Department being allowed the prime cost plus the usual percentage for use and waste of plant and establishment charges, and in addition, at the discretion of the Historical Records and Buildings Committee, a further allowance to represent contractor's profit.

*Holborn to Strand.*—The Improvements Committee recommended, and it was agreed—

(*a*) That the working drawings, specification, and estimate of the cost (28,000*l.*) of the paving and other works in connexion with the widening of the Strand between Catherine-street and a point to the west of St. Clement Danes Church, be referred to the manager of the Works department, with a view to the work being carried out without the intervention of a contractor.

(*b*) That the Improvements Committee be authorised to engage at the weekly wages of 3*l.* 13s. 6d. a clerk of works in connection with the widening of the Strand.

*Old-street and Goswell-road.*—The same Committee recommended and it was agreed—

(*a*) That the working drawings, specification, and estimate of the cost (8,520*l.*) of the paving and other works in connexion with the Old-street and Goswell-road improvement be referred to the manager of the Works department, with a view to the work being carried out without the intervention of a contractor, it being understood that the works will be proceeded with by night as well as by day.

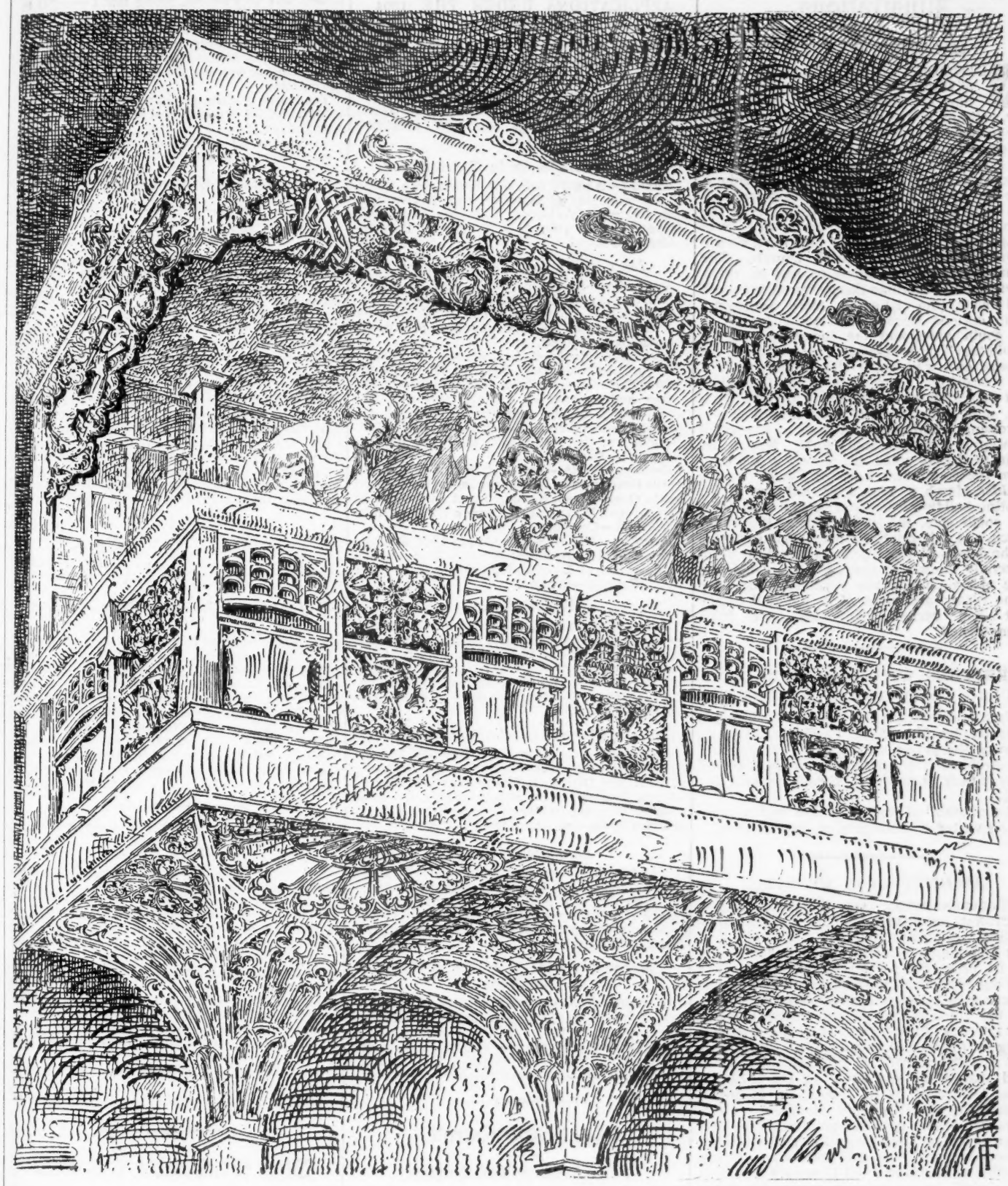
(*b*) That the Improvements Committee be authorised to engage at the weekly wages of 3*l.* 13s. 6d. a clerk of the works in connexion with the Old-street and Goswell-road improvement.

*Tenders.*—The following tenders were accepted:—

Grease separator at Crossness outfall: Messrs. W. B. Haigh & Co., 105*l.* Repair of delivery trough, Deptford Pumping Station: Messrs. Fletcher, Son, & Fearnall, 1138*l.* Tar paving materials, Plumstead Common: B. S. Jones, bottoming, 19s. per ton; topping, 1*l.* 2s. 6d. per ton; dust, 19s. per ton; and spar 1*l.* 10s. per ton.

Having transacted other business, he Council adjourned.

BRITISH MEDICAL ASSOCIATION.—For the sixty-ninth annual meeting of the British Medical Association, which will be opened at Cheltenham on Tuesday next, Mr. J. Hall, A.M.Inst.C.E., has made plans for the renovation, at a cost of 10,000*l.*, of the Winter Garden, in which the annual exhibition and museum will be held.



*Musicians' Gallery, Adel Towers, Leeds. Messrs. Bromet & Thorman, Architects.*

## MUSICIANS' GALLERY, ADEL TOWERS, LEEDS.

THE Musicians' Gallery, here illustrated, formed part of some alterations and additions recently carried out at Adel Towers. It is constructed entirely of pencil-cedar, to correspond with the remainder of the woodwork in the house. Mr. Ralph Hedley, of Newcastle-on-Tyne, was the carver. Messrs. Bromet & Thorman, of Tadcaster and Leeds, are the architects.

A NEW DOCK (PORT OF LONDON).—Lord Morley's Committee of the House of Lords have ordered to be reported to the House for third reading the Bill promoted by the London and India Docks Company. The measure, which has passed the House of Commons, will confer powers for raising further capital to the extent of 2,000,000*l.*, with the usual power to borrow a third as much more, for the construction of a large new dock at West Ham in view of the rapid growth of trade in the Port of London.

## *COMPETITIONS.*

NEW BATHS AND WASH-HOUSES, OLD KENT-ROAD.—Mr. A. Saxon Snell has been appointed assessor in the competition in respect of designs for the Public Baths and Wash-houses which the Camberwell Borough Council propose to build upon a site in Old Kent-road.

SCHOOL, RANMOOR, YORKSHIRE.—The Building Committee of the Sheffield School Board, having received a report from Mr. Robson respecting the seven sets of competitive plans for a school at Ranmoor, recommended:—"That the plans submitted by Messrs. Holmes & Watson be accepted and adopted for the above-named school, subject to the conditions set forth in the instructions for the guidance of architects and to any modifications which may be deemed necessary, subject also to the approval of the Board of Education. That premiums of 15*l.* each be awarded to Mr. H. I. Potter and Messrs. Hemsoll & Paterson, whose plans are adjudged to stand second and third in the order of merit." Plans submitted by Messrs. Holmes & Watson for the erection of a senior mixed department in connexion with Tinsley Park-road school, to accommodate 750 children, have been adopted.

## BOOKS RECEIVED.

THE PARISH CHURCHES OF NORTHAMPTONSHIRE, illustrated by wills, *temp.* Henry VIII. By the Rev. J. Charles Cox, LL.D., F.S.A. (Harrison & Sons.)

THE LATER RENAISSANCE IN ENGLAND. By John Belcher, A.R.A., and Mervyn E. Macartney. (B. T. Batsford.)

THE ROYAL TOMBS OF THE EARLIEST DYNASTIES. Part II. By W. M. Flinders Petrie. (Egypt Exploration Fund.)

DIOSPOLIS PARVA. By W. M. Flinders Petrie. (Egypt Exploration Fund.)

CATALOGUE OF PRINTED BOOKS ON HERALDRY, in the National Art Library, Victoria and Albert Museum. 2s. (Eyre & Spottiswoode.)

# Illustrations.

## MALMESBURY ABBEY.

ALTHOUGH the foundation of the abbey at Malmesbury is said to date from the time of Aldhelm, in the seventh century, nothing in the existing part of the Benedictine church is older than the Norman period. Much of it is Transitional in character, and the clearstory and some other details are of Decorated work of the fourteenth century. The presbytery and the two towers (western and central), the north transept, and the monastic buildings on the north side have disappeared. Of the nave of nine bays, six are vaulted, and form the parish church. The remaining three are more or less in ruins. There are fine Norman doorways on the south and west (the latter a mere fragment), some curious Decorated window tracery in the south aisle, and the lower part of the "pulpitum" or rood-screen, now against the present east wall under the western arch of the "crossing." Three out of the four piers that supported the central tower are still standing, with the north and west arches of the "crossing," and the west wall of the south transept to a considerable height. Most of the features already noted are shown in the view from the south-west now published. In the *Builder*, March 2, 1895, a ground plan of the existing building was given; also a view from the south side, the nave arcade, the south porch, and a descriptive article and illustrations of the details of the rood screen, and the tomb generally known as that of King Athelstan. The abbey church has recently undergone some repair, and many of its external details that had become dangerous have been strengthened.

## SKETCHES WITH THE ARCHITECTURAL ASSOCIATION EXCURSION.

THESE sketches, made especially for this occasion by Mr. W. Curtis Green, illustrate some of the places visited by the members of the Architectural Association during the first days of their excursion in Gloucestershire this week.

An account of the excursion and of the places visited will be found on another page.

# *ARCHITECTURAL SOCIETIES.*

WOLVERHAMPTON AND DISTRICT ARCHITECTURAL ASSOCIATION.—This is a new association, just formed under the above title, with the following objects as stated under Rule 2 in its prospectus:—"(a) The fostering of a feeling of brotherhood and mutual respect and intercourse between local qualified architects. (b) the consideration of any matter affecting the interests of the profession in the town and neighbourhood; (c) to endeavour to maintain the established code of professional practice and charges as laid down by the R.I.B.A." The Association is to consist of Members, Associates, and Honorary Members. Members being duly qualified architects who have been in actual practice for at least two years; Associates, shall be architects who are not eligible as Members; and Honorary Members, who shall be gentlemen eminent for distinguished attainments, or who have rendered special services to the Association or profession. The entrance fee for Members and Associates is to be one guinea, payable on election, and the annual subscription for Members, 15s.; and for Associates, 10s. 6d. The following is the list of officers:—President—Mr. J. Lavender, F.R.I.B.A.; Vice-President—Mr. G. H. Stanger, F.R.I.B.A.; Council—Messrs. F. Hunter Lynes, A.R.I.B.A., T. H. Fleeming, and S. H. Eachus (London); Hon. Treasurer—Mr. J. Harrison Weller; and Hon. Secretary—Mr. W. Edwards (25, Darlington-street, Wolverhampton).

THE ROYAL ACADEMY SOIREE.—The annual soirée of the Royal Academy was held on Wednesday evening at the galleries at Burlington House at 9 p.m. The guests were received at the entry to the octagon room by the President, Sir E. J. Poynter. There was the usual large attendance of people of artistic and social eminence, and the whole entertainment was much as usual. The Royal Artillery band played beautifully, in the Lecture-room, during the greater part of the evening, and conversation, the pictures, and the refreshments furnished the remainder of the evening's amusement.

## APPLICATIONS UNDER THE 1894 BUILDING ACT.

AT the meeting of the London County Council on Tuesday the following applications were considered. Those applications to which consent has been given are granted on certain conditions. Names of applicants are given in brackets. Buildings are new erections unless otherwise stated:—

### *Erection of Buildings in Norwood-road.*

*Norwood.*—A public hall, and houses with shops, on the west side of Norwood-road, Norwood, to abut also upon York-road, Ulleswater-street, and Harpenden-street (Mr. J. S. Quilter for the freeholders).—Consent.

### *Lines of Frontage, and Projections.*

*Bermondsey.*—A building, to be used as a girls' school, on the north side of New Kent-road, Southwark, next Buckenham-square (Mr. W. C. Jones for the Governors of St. Saviour's and St. Olave's Foundation).—Consent.

*Kensington, North.*—A bay window in front of No. 79, Ladbroke-road, Notting Hill (Messrs. Hukins & Mayell for Colonel Fanshawe).—Consent.

*Bow and Bromley.*—A covered way over the stairs leading to the northern platform at the Wellington-road Station, Bow-road, Bow (Mr. C. A. Brereton for the Whitechapel and Bow Railway Company).—Consent.

*Kensington, North.*—Buildings, to be used as shops, on the forecourt of a building known as the Norland Castle, Queen's-road, Kensington, at the corner of Norland-road North (Mr. A. Gordon for the Salvation Army).—Consent.

*Lewisham.*—The enlargement of two bay windows in front of No. 107, Ringstead-road, Rushey-green, at the corner of Laleham-road (Mr. A. L. Guy for Mr. C. Fookes).—Consent.

### *Width of Way.*

*Poplar.*—Two buildings, to be used as a doctor's house and dwellings for female officers respectively, on the south side of High-street, Poplar, at less than the prescribed distance from the centre of a roadway leading to Poplar workhouse (Messrs. J. & S. F. Clarkson for the Guardians of the Poplar Union).—Consent.

### *Width of Way and Construction of Building.*

*Poplar.*—That the Council's resolution of April 30, 1901, sanctioning the erection of an open iron shed at the Regent Dry Dock, West Ferry-road, Millwall, with the forecourt fence at less than the prescribed distance from the centre of Regent Dock-road, be modified by the omission of words.—Agreed.

### *Formation of Streets.*

*Wandsworth.*—That an order be issued to Messrs. Farebrother, Ellis, & Co., sanctioning the formation or laying-out of a new street for carriage traffic on the Mount Clare Estate, to lead from Roehampton-lane to Priory-lane, Roehampton (for Mr. H. C. Smith).—Consent.

### *Means of Escape from Top of High Buildings.*

*St. George, Hanover-square.*—Means of escape in case of fire on the top story of the southern portion of a block of residential flats on the west side of Harewood-place, on the site of No. 14, Hanover-square, St. George, Hanover-square (Mr. P. Hoffman, for Mr. H. Lovatt).—Refused.

# Correspondence.

*To the Editor of* THE BUILDER.

## PORTLAND CEMENT TESTING.

SIR,—I considered the article on "Portland Cement Testing," in your issue of 13th inst., very interesting. I agree that a very large number of engineers, architects, and surveyors would get very much better results, and often prevent unnecessary expense and trouble, if they made it a rule to have the cement tested.

The article very clearly states that it is very possible for unskilled labourers to mix the raw materials in a faulty manner at the cement works, and that the testing would at once find the mistake.

But when the statement is also made that "with proper plant, which at the most would cost say under 20*l*., an office boy or labourer with ordinary common sense can do all that is necessary," &c., I entirely disagree.

It is pointed out, and rightly so, that the tensile test is generally looked upon as the most important of all, and I do not think any one with a practical knowledge of cement would be willing to trust the office boy or a labourer to make the briquettes, which must be well made for the test of 400 lbs. per square inch.

Then I do not see anything in the article as to the coolness of the cement.

I have tested some hundreds of tons recently, and from various makers, and one case with which I had to deal was very curious, seeing that I was able to pass a large consignment of cement one month after I had condemned it, and during that time the cement had been turned over and properly aërated and cooled, and its tensile strength increased from an average of just over 200 lbs. to nearly 500 lbs. to the square inch.

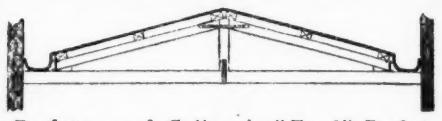
The reason was the works were turning out such large quantities of cement that this consignment was new and hot.

In conclusion I would only advocate that experienced people test cement.

ROBERT H. REED.
*County Bridge Works, Fordingbridge, Hants.*

## "TEXYL" ROOFING.

SIR,—Permit me to thank you for the courteous notice of our Glasgow Exhibition pavilion in your recent issue. Whilst fully endorsing what you say about the importance of the cement used in a composite roofing material such as "Texyl," I should like to say that this system has now undergone a practical test for some years past, being constructed by country builders with ordinary Portland cement. At a house near Uxbridge a large pitched roof and flat, with tiles bedded paving-wise in the cement, was erected in 1896. The surrounding roofs of the same house, built about the same time, have the usual overlapping tiles, and whilst these have occasionally called for repairs and new tiles the "Texyl" roof has required none, but is perfectly sound at the present time, though the flat is liable to be used as a balcony promenade. The enclosed section of the pitched roof will show you that the



*Roof-span and Gutters in "Texyl" Roofing.*

gutters are continued in the same material instead of being flashed with lead, and these also have answered expectation perfectly. In addition to roofs, Mr. Benson (whose partner I am in this matter) has built a water-tower at Uxbridge mainly of "Texyl" throughout—viz, corrugated sheets stiffened and coated with cement bonded by his patent method. The exterior effect is like plaster or stucco, but it can be varied to any extent, as is shown by the little half-timbered pavilion now at Glasgow.

H. C. MARILLIER.

## LOAN EXHIBITION OF ECCLESIASTICAL ART.

SIR,—You have been good enough in previous years to allow me space for a few lines for a reminder of the approach of the time for sending in the list of loans to the Ecclesiastical Art Exhibition. As the time is now drawing near, I hope you will kindly allow me to say that if any of your readers intend assisting the Exhibition by the loan of articles of interest I shall be very glad to hear from them at once.

The collection will, as before, embrace every kind of gold- and silversmith's work, art metal work, tapestry, needlework, carvings in wood and ivory, MSS., paintings, and articles of ecclesiastical and archæological interest.

For church plate and embroidery we are always particularly grateful.

JOHN HART.
*Maltravers House, Arundel-street, Strand.*

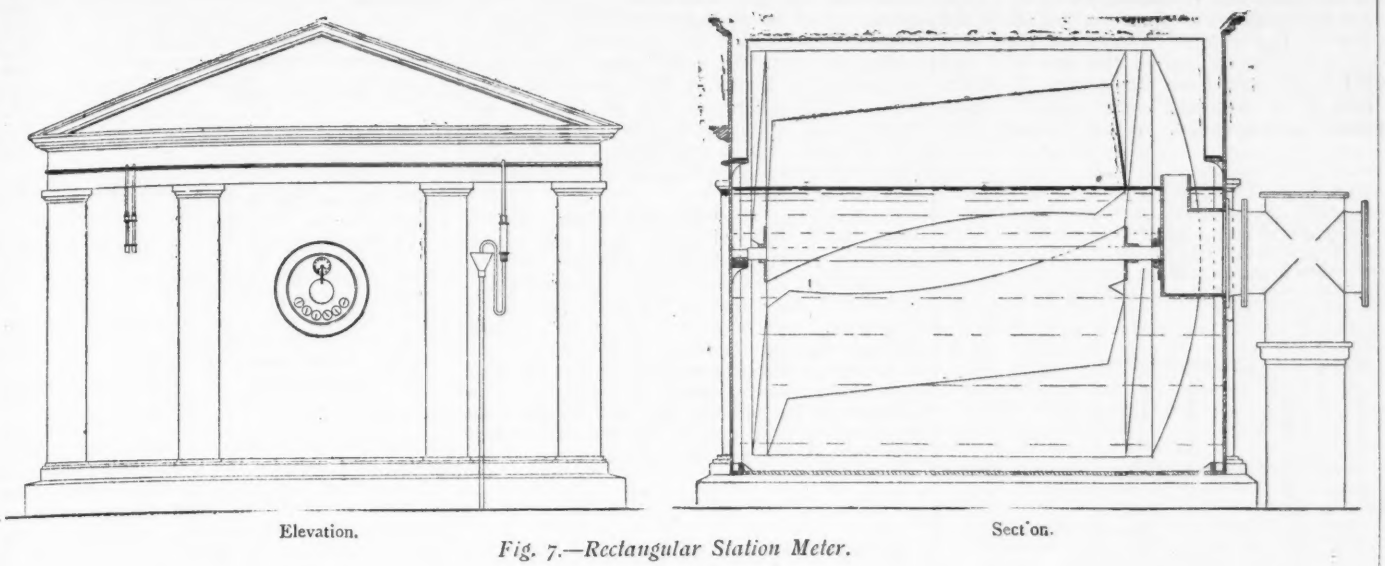
# The Student's Column.

## GAS AND GAS FITTINGS:

### 4.—STATION METERS, GASHOLDERS, STATION GOVERNORS, DISTRIBUTION.

STATION METERS.—The gas leaving the purifiers usually passes next to the "station" or "works" meter (fig. 7), in order that the total quantity of gas made may be ascertained and recorded. The meter case is usually rectangular for large meters and cylindrical for those of smaller capacity. Sometimes a separate meter is provided for each retort house. The station meter is always one of the variety known as "wet" meters, in which a drum revolves in a chamber partly filled with water. The drum has three or four internal compartments of equal capacity.

The meter is filled with water to a level a little higher than the axle on which the drum revolves. The gas entering one of the chambers causes it to slowly revolve. As the chamber becomes filled with gas its inlet passes beneath the water level, and the inlet to the next chamber at the same time rises above the water level, and allows gas to enter and continue the revolving motion of the drum.



Elevation. Section.

*Fig. 7.—Rectangular Station Meter.*

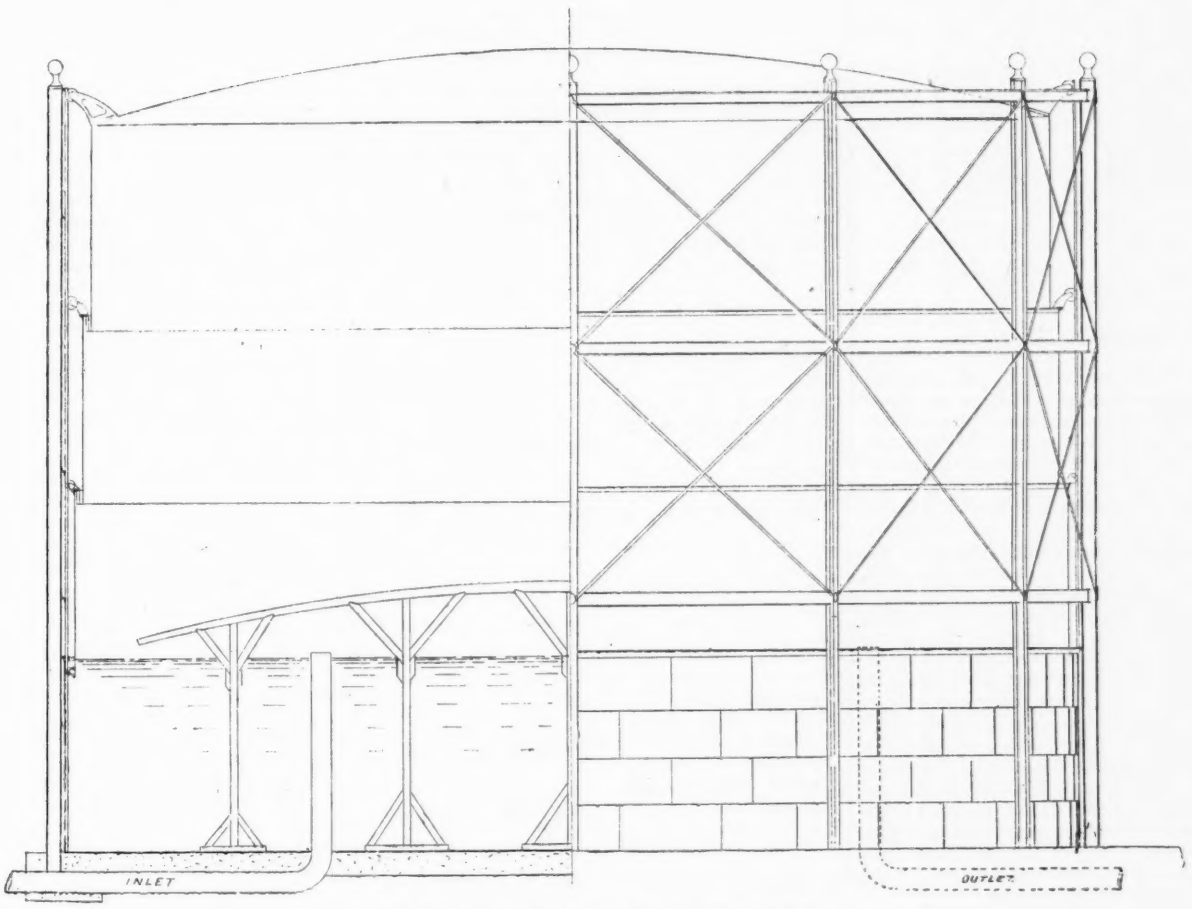



*Fig. 8.—Three-Lift Gasholder: showing Tank.*

The capacity of the chambers of the drum is dependent on the level of the water; when the water level is too low the gas capacity of each chamber is increased, and the meter registers a smaller quantity of gas than has in reality passed through it, and when the water level is too high the gas capacity of each chamber is decreased and the meter indicates a larger consumption than the correct amount. It is necessary therefore to maintain the water at a constant level, and this is accomplished by supplying the meter with a small but continuous stream of water, and a siphon overflow pipe which prevents the water from rising above the proper water line.

*Gasholders.*—From the station meter the gas passes into the gasholder (fig. 8). The gasholder is often called a "gasometer" by those not connected with gas undertakings, but the term has long been discarded by gas engineers. The gasholder still remains a gasometer inasmuch as it is possible to estimate roughly the quantity of gas in the gasholder by counting the number of riveted plates (of known dimensions) in a vertical line above the water level in the tank. From the height of the holder above the water, and from its diameter, it is easy to calculate the contents of the holder; but the introduction of the station meter has rendered the use of the gasholder as a meter unnecessary. The gasholder consists of a cylindrical bell which is free to rise and fall in a tank containing water. It is maintained in equilibrium by suitable supports, and has its lower end, which is open, always immersed beneath the surface of the water. The holder may be single or telescopic, the bell which contains the gas being technically known as a "lift." A telescopic holder may have several lifts, but the dome of the top lift serves for all the other lifts, which are merely telescopic cylinders. In a telescopic holder the lower edge of the smaller upper lift is turned outwards and upwards to form an annular trough or "cup," which is filled with water and which receives the turned-over upper edge of the larger cylinder. A gas-tight seal is produced, and when the inner cylinder is filled with gas and continues to rise, its cup is caught by the turned-over edge of the lower and outer cylinder, which is then drawn up out of the water tank without breaking the water seal in the cup. The pressure on the gas within the holder may be as great as 12 in. of water, but varies with the weight of the holder.

The largest gasholder in the world is that erected by Mr. Livesey at the East Greenwich works of the South Metropolitan Company. This holder has six lifts, is 300 ft. in diameter, rises when filled to a height of 180 ft., and has a capacity of 12 million cubic feet. The two topmost lifts ascend above the top of the framing.

The gasholder tank is usually a circular excavation walled with concrete, brick, or stone; a circular or conical mound termed the "dumpling" or "cone" being commonly left in the centre of the tank. Modern gasholder tanks are sometimes constructed in steel and built above ground. Leakages in such tanks are more readily stopped than in those of brick or concrete. Steel tanks are cheaper than brick or concrete tanks, and are said to be almost as durable.

*Station Governor.*—After leaving the gasholder the gas passes to the station governor (fig. 9), which enables the pressure of gas passing forward to be reduced and regulated to any desired point. The governor most commonly employed consists of a cast-iron water

tank, through the bottom of which the gas from the gasholder is conducted up by a pipe which terminates in an open end just above the surface of the water. Within the tank is a floating bell which covers the gas inlet and outlet pipes, and from the crown of which a conical or parabolic valve with its apex upwards is suspended. When the bell rises

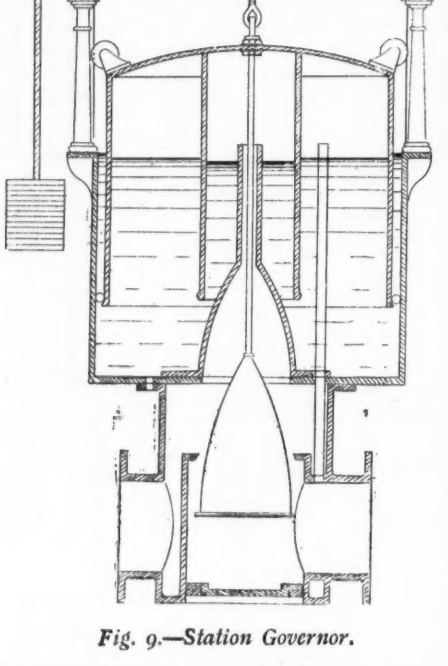


*Fig. 9.—Station Governor.*

this valve is drawn up with it, and partially blocks the passage through which the gas flows into the bell, and thus diminishes the volume of gas admitted to it. When the bell descends, the cone also descends, and a larger volume of gas can enter the bell. The bell rises when gas is entering at a greater rate than it is being withdrawn by the consumers, and descends when the consumers are withdrawing the gas at a greater rate than it is entering the bell. Thus the varying requirements of the consumers are automatically satisfied without changing the gas pressure. The pressure of the gas at the outlet of the governor is controlled by increasing or decreasing the weight of the bell, which is supported by one or more chains passing over pulleys, each chain terminating in a rod furnished with removable weights. In addition to this governor, a governor is usually fitted to the throttle steam valve of the exhauster engine to control the speed of the exhauster, and sometimes governors are provided in different parts of the district to control variations of pressure produced by the supply of gas over rising ground.

*Distribution.*—The term "main" is commonly applied to the principal pipe in each street, while "main-service pipes" are those which convey gas from the main to the consumer's meter. The "service pipes" are those which convey the gas from the meter to the point of consumption. Sometimes, however, the main-service pipe is called the service pipe, and the service pipes within the building are spoken of as "fittings."

*Mains.*—From the gasworks the gas is usually distributed over the district under a pressure of from 1 in. to 4 in. of water. The mains were formerly almost universally made of cast-iron, but wrought-iron and steel mains are now frequently employed. The loss by leakage is much less than it was a few years ago, although higher pressures are now used. The leakage is, however, still too large, and that it is possible in practice to secure gas-tight mains is demonstrated by the fact that at Royersford, near Philadelphia, 20-candle carburetted water-gas is being distributed under a pressure of 20 lbs. to the square inch through wrought-iron mains tested and found gas-tight under a pressure of 60 lbs. to the square inch. From the high-pressure mains the gas is distributed into low-pressure mains, and the former, in which the pressure is allowed to vary, play the part of gasholders. A number of consumers are, however, served direct from the high-pressure mains, house governors being interposed on the main-service pipes. The mains should be so connected that the gas is always in circulation, for gas which is allowed to stagnate in "dead ends" often deteriorates considerably. Mains in level ground are laid with a slight inclination, and provided at the lowest point with a siphon or drip box to collect the liquid which condenses from the gas. The condensed liquor is pumped out of these boxes periodically.

*Discharge of Gas Through Pipes.*—Tables giving the volume of gas in cubic feet which will pass through pipes of different lengths and different diameters under different pressures, will be found in "Hurst's Surveyor's Handbook," and in most other books dealing with gas supply. The rate of flow diminishes as the length of pipe increases, and varies also with the specific gravity of the gas. The following is the formula deduced by Dr. Pole for calculating the quantity of gas which will pass through pipes of different sizes :—

$$Q = 1{,}350\, d^2 \sqrt{\frac{h \times d}{s \times l}}$$

Where Q = quantity of gas passed in cubic feet per hour.

$d$ = diameter of pipe in inches.
$l$ = length of pipe in yards.
$h$ = initial pressure in inches of water.
$s$ = specific gravity of the gas.

The following figures from the tables of Newbigging and Barlow, which have been calculated from Pole's formula, will serve to indicate the effect of increasing the length of pipe upon the rate of flow of the gas (sp. gr. 0·4), the retarding influence exerted by friction between the side of the pipe and the flowing gas being considerable :—

*Diameter of Pipe 1 in.*

| Length of pipe in yards | 10 | 20 | 30 | 50 |
|---|---|---|---|---|
| Cubic feet of gas delivered under initial pressure of 1 in. ..... | 675 | 476 | 389 | 301 |
| Cubic feet of gas delivered under initial pressure of 1·2 in. ... | 738 | 522 | 427 | 329 |

*Diameter of Pipe 36 in.*

| Length of pipe in yards | 1,000 | 5,000 | 10,000 |
|---|---|---|---|
| Cubic feet of gas delivered under initial pressure of 1 in. ... | 530,000 | 234,000 | 166,000 |
| Cubic feet of gas delivered under initial pressure of 2 in. ... | 741,000 | 332,000 | 234,000 |

In practice, however, the actual discharge is considerably less than the theoretical quantity, especially in the case of small pipes. The smaller the pipe the greater the friction per unit of gas delivered. Hurst gives a table based on actual experiments showing the gas (sp. gr. not quoted) discharged through small service pipes of various lengths, from which we take the following :—

*Diameter of Pipe 1 in.*

| Length of pipe in yards | 10 | 20 | 30 | 50 |
|---|---|---|---|---|
| Cubic feet of gas delivered under initial pressure of 1 in. ..... | 337 | 233 | 190 | 148 |
| Cubic feet of gas delivered under initial pressure of 1¼ in..... | 368 | 260 | 212 | 164 |

It will be seen that the discharge of gas obtained at the burners from small service pipes is only about one-half the volume that should, according to Pole's formula, pass through the pipes if perfectly straight and horizontal

Even for larger pipes the volumes of gas discharged quoted by Hurst are much smaller than those given by Newbigging, as will be seen from the following comparative figures :—

*Diameter of Pipe 12 in.*

| Length of pipe in yards ..... | 500 | 1,000 |
|---|---|---|
| Cubic feet of gas delivered under initial pressure of 1 in. (Hurst) ..... | 33,255 | 23,515 |
| Cubic feet of gas delivered under initial pressure of 1 in. (Newbigging) ..... | 47,433 | 33,631 |
| Cubic feet of gas delivered under initial pressure of 2 in. (Hurst) ..... | 47,030 | 33,255 |
| Cubic feet of gas delivered under initial pressure of 2 in. (Newbigging) ..... | 67,262 | 47,433 |

In practice it is better to adopt the figures quoted by Hurst, for the introduction of angles and curves in the pipes, and the accumulation in them of liquid or solid matter tends to diminish their delivering capacity. The smaller the pipes the greater their liability to become blocked with naphthalene, tarry matter, rust, or water. The present tendency in gas supply is to distribute it at a considerably greater pressure than 1 in. The delivering capacities of the pipes vary approximately directly as the square root of the pressure and inversely as the square root of the length. If the pressure is increased four times the volume of gas delivered is doubled. If the length of pipe is increased four times the quantity of gas delivered is halved.

*Main-service Pipes.*—The main-service pipes should be of wrought iron, unless the employment of this material be prohibited by the corrosive action of the soil. Cast-iron pipes are often used, but are apt to have leaky joints, and lead pipes are apt to become distorted owing to subsidence of the ground in which they are buried. The diameter of the service-pipe required is dependent upon the description and number of the appliances to be supplied. It is usual to assume that each burner requires 5 cubic feet of gas per hour, but as most consumers use a large proportion of the gas consumed for purposes other than lighting this rule is now of little service. Domestic gas fires commonly consume over 30 cubic feet per hour, ring burners from 12 to 15 cubic feet, while cookers and water heaters use an indefinite quantity but require a comparatively large volume for a short period. The capacity of the pipes required should not be calculated npon the average hourly consumption, but upon the consumption when every gas-consuming appliance in the building is in use at the same moment, and at the lowest pressure permitted by Act of Parliament. As a rule, the gas manufacturer provides and fits the main service-pipe and meter; and, owing to the comparatively heavy cost of pipes of large diameter, frequently supplies a pipe barely large enough for the duty required from it when the gas is first connected to the building, and as additional fires and stoves are usually introduced from time to time after the service-pipe has been laid, it frequently happens that the pipe is not sufficiently large for the work it is expected to perform. The consumer obtains a very low efficiency in light or heat per unit of gas consumed, and naturally concludes that the manufacturer is supplying "bad gas," and regards it as an additional injury that his gas appears to be worst just at the time he most urgently needs an ample supply (as on a cold, foggy day), and all his neighbours are simultaneously drawing heavily upon the supply. The fact that the gas bill is a little less heavy does not in any way compensate for the fact that the gas fails to perform its legitimate duties.

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*Fig. 6a.*—A correspondent asks, in reference to our last week's article, why valves and by-passes are provided in the connecting pipes to a set of purifiers, as shown in fig. 6(a), published in the issue of last week. They are provided to enable the gas to be sent in any order of rotation through the purifiers, and to enable any purifier to be disconnected from the other purifiers in the set without putting the whole set out of action. Our illustration shows the connexions for a set of three purifiers, Nos. 1, 2, and 3, and it will be seen that with the arrangement of pipes and valves there figured it is possible to send the gas in the

order of rotation Nos. 1, 2, 3, or Nos. 3, 1, 2, or to cut off No. 2 for recharging, and allow the gas to continue to be purified by passage through Nos. 1 and 3. Any number of purifiers may be placed in circuit in a set, and several sets may be connected together; but provision must always be made for continuous purification. A clean purifier must always be in readiness to be put into action immediately the gas at the outlet of the last purifier in use begins to come through "dirty." In London the gas companies are liable to a penalty of 50*l.* per day if even an infinitesimal trace of sulphuretted hydrogen be found in the gas supplied to consumers, and great care has to be exercised to prevent any unpurified gas escaping into the mains.

## *OBITUARY.*

MR. H. YEOVILLE THOMASON. — The death of Mr. H. Yeoville Thomason, formerly of Birmingham, and whose name is well known as the architect of the Municipal Buildings and Art Gallery in that city, took place last week at his house at 9, Observatory-gardens, Campden Hill, London. From a notice in the Birmingham *Daily Post* we learn that Mr. Thomason belonged to an old Birmingham family, and his grandfather, Sir Edward Thomason, held the position of High Bailiff before the incorporation of the Borough, and was a manufacturer who was also interested in art. Mr. H. Yeoville Thomason was born in Edinburgh in 1826. When it was decided that he should follow architecture as a profession, he was articled to a Birmingham architect, Mr. Charles Edge, and subsequently became manager of the architectural department in the Borough Surveyor's office. Subsequently he travelled a good deal and made a study of architecture in Italy. Before he was engaged on public buildings he was chiefly occupied in designing private residences in Edgbaston and other suburban districts of Birmingham, from 1840 to 1870. Among important buildings which he carried out may be mentioned the Aston Workhouse (about 1865), one of the largest works on which he was engaged; the Acocks Green Congregational Chapel; the Birmingham District and Counties Bank, in what may be described as a neo-classic style—it is one of the best of the larger street fronts of Birmingham; the Birmingham *Daily Mail* offices; and the Birmingham *Daily Gazette* offices Among manufacturing works and warehouses which he carried out were the Atlas Works for Messrs. Horace Woodward; a block of offices and shops for Messrs. Thos. Hope Bros., at the corner of New-street and Cannon-street (Birmingham); the large establishment of Messrs. Lewis, the first concrete and iron building erected in Birmingham, and his last large executed work, completed in 1886, after which he retired from practice. The Municipal Buildings of Birmingham, part of which forms also the Corporation Art Gallery, a very large building in a grandiose style, will keep his name in memory in that city, where it seems to have given every satisfaction to his municipal clients. Mr. Thomason considered that his arrangement of the seating in the Council Chamber at Birmingham had furnished a model for the arrangement of several subsequently erected Council rooms. Though Mr. Thomason adopted the Gothic style in some churches and in some of his houses, his preference was always for classic architecture, and he was a great admirer of Wren. During his many years' residence and practice in Birmingham Mr. Thomason took no part in public affairs, his interest being entirely absorbed by his professional work, and he continued after his retirement from practice to take an interest in everything connected with architecture and architectural work.

Mr. Thomason was elected a Fellow of the Institute of Architects in 1862. We gave illustrations of the Municipal Buildings and of the Union Club House in connexion with the article on Birmingham architecture ("Architecture of Our Large Provincial Towns") in the *Builder* of November 27, 1897.

## *GENERAL BUILDING NEWS.*

CHAPEL, KING'S NORTON.—The foundation-stone has just been laid of a new Weslevan chapel at King's Norton. The architect is Mr. Ewen Harper. The building is to be built of red brick with York stone dressings, and will consist of a nave and aisles divided by granite columns. Immediate provision is to be made for 480 sittings, and of the plans permit of further accommodation being secured when necessary by the addition of transepts and a chancel. The main entrance is to face Middleton Hall-road, and the porch consists of a moulded stone archway with pinnacles and pediment. There is a second entrance from the front, in the tower, by which access is gained to the gallery. The builders are Messrs. Harley & Son, of Smethwick.

CATHOLIC CHURCH EXTENSION, WITHINGTON.—The foundation-stone was laid recently of additions that are being made to the Church of St. Cuthbert, Withington, Manchester. Messrs. Goldie, of London, are the architects.

ADDITIONS TO CONGREGATIONAL CHURCH, WALSALL.—The memorial-stones have just been laid of an enlargement of the Wednesbury-road Congregational Church, Walsall. The architects are Messrs. Crouch & Butler, Birmingham, and the designs include the addition of a chancel, and about 200 additional sittings to the church.

WESLEYAN METHODIST CENTRAL HALL, BIRMINGHAM.—On the 16th inst. the foundation-stones were laid of a new central hall for the Birmingham Wesleyan Methodists. The site of the new building is nearly opposite the Assize Courts. It covers an area of 2,766 square yards, and the building will have frontages to three streets—to Corporation-street, which is the main elevation, measuring 224 ft., to Ryder-street 113 ft., and to Dalton-street 276 ft. In the centre of the building is a tower, rising to a height of 180 ft. On the ground floor are fifteen shops, with basement shops, together with sale rooms, warehouses, and other offices for commercial purposes. One basement, capable of accommodating 500 children, will be retained by the mission as a ragged school, and will be fitted up with cooking arrangements for the feeding of the poor in time of need. On the first and second floors are the large hall, synod hall, and other rooms for Methodist purposes. The main entrance under the tower leads into a hall, where two staircases lead to the first floor landing. Here, by turning to the left, access is gained to the synod hall and church house, and by turning to the right and ascending a few steps the level of the great hall is reached at the platform end. The corridors which run round the great hall give access on the outside to twelve committee-rooms; and on the inside are frequent entrances to the great hall. The hall is 140 ft. long, 90 ft. wide upstairs, and 48 ft. high, with seating accommodation for 2,300 persons (300 being on the orchestra and 2,000 in the auditorium). There are no seats under the gallery. On the lower or left-hand side of the tower is the church house. The corridor leading from the stairs already mentioned has on its left (or Corporation-street side) a committee-room and the synod hall, which will seat 500 persons; and on the right another committee-room and the Sunday-school. Along the corridor are two rooms, the library and the ladies' parlour, which look out on Ryder-street. On the floor above are twelve club and classrooms. There are in all five entrances. The chief material employed in the facade is red terra cotta. The entire cost of the scheme is estimated at from 60,000*l.* to 65,000*l.* The plans were prepared by Mr. Ewen Harper, and the contractors are Messrs. John Bowen & Sons.

CHURCH, EAST KIRKBY, NOTTS.—A new church is being erected at East Kirkby. The building will consist of a nave 78 ft. long and 27 ft. wide internally, with aisles (merely passages 4 ft. wide), a chancel 30 ft. long and 21 ft. wide, vestries for clergy and choir, with heating chamber under, and bell turrets at the west end. The principal entrance will be at the west end facing Lowmoor-road, the highway between Nottingham and Mansfield, and an internal porch will be formed by a screen and swing doors. The church is planned to accommodate about 360 adults, and to admit of lateral extension by increasing the width of one or both the aisles according to future requirements. The nave and aisles are divided into five bays, with octagonal stone columns and moulded arches springing from the piers without capitals. The chancel arch will be enriched with carving. The roofs will be of open timber construction, with hammer-beam trusses, the wood being stained dark walnut colour. The floor under the seats will be of wood blocks, and in the passages, &c., of terrazza and marble mosaic. The walls will be of brick, with red facings and stone dressings externally, and plastered and distempered internally, except where stonework is used. The windows will be of stone, the arched heads being filled with tracery. The glazing will be of leaded cathedral glass, in small quarries. The roofs will be covered with red tiles, and the turret roofs with lead. The heating will be by means of hot water on the low-pressure system. The architect is Mr. Louis Ambler.

CHURCH, PONTARDULAIS.—The new Church of St. Michael and All Angels, Pontardulais, was opened by the Lord Bishop of St. David's recently. The architect of the church was Mr. E. M. Bruce-Vaughan, Cardiff, and the contract was entrusted to Messrs. John Thomas & Sons, Pontardulais. There are 302 sittings. The church consists of a nave, chancel, vestry, and organ chamber. The walls are of grey stone, and the roof is covered with green slates. The nave and organ chamber and vestry walls are pierced with two-light traceried windows, the west wall of the nave with a five-light, and the east wall of the chancel with a three-light window. The window and door dressings, as well as the copings to gables, are all executed in Box ground stone. The double bell-cote surmounting the chancel arch is chiefly built of Box ground stone. The roof of the chancel is waggon-shaped. The nave and chancel seats are in pitch pine.

CHURCH, SPARKBROOK, BIRMINGHAM.—The new Church of St. Agatha, at Sparkbrook, was dedicated by the Bishop of Worcester recently. St. Agatha's Church, says the *Birmingham Post*, has cost 15,000*l.*, and this amount will be paid out of the proceeds of the sale of Christ Church, which was for many years a well-known landmark in the centre of the city. The original foundation-stone of the old church has been built into the base of the tower of the new structure, and among other things taken to Sparkbrook from New-street are the font and communion-table; the single bell, bearing the inscription "John Rudhall, Gloucester, Fect. 1813"; and a quantity of the mahogany panelling of the old pews of Christ Church, which has been used in the new baptistry and in the clergy vestry. The church occupies a site adjoining the Board Schools in the Stratford-road, and has been erected from the designs of Mr. W. H. Bidlake, and under his superintendence. "It is in the late decorated Gothic style, with an original interpretation of traditional forms," and accommodation is afforded for more than 1,000 worshippers. The materials employed are buff brick facing within, and red and blue brick without, with Hollington stone and Bath stone dressings. The roofs are covered with grey-green Whitland Abbey slates. The tower is 120 ft. high to the top of the parapet, and is surmounted by a fleche rising 40 ft. higher. From the base of the tower projects a semi-octagonal baptistry, over which, is the west window, which is in turn surmounted by sculpture in canopied niches, representing Christ in majesty, supported by the angels of Justice and Pity, and surrounded by angels. On the north and south sides of the tower, and forming with it a symmetrical façade, are porches, whose tympana are filled with sculpture illustrative of the martyrdom of St. Agatha; whilst the arch mouldings are decorated with cherubs' heads. The interior consists of a nave 120 ft. long and 29 ft. wide, separated from wide aisles by arcades of Hollington stone arches. Projecting shafts rise between the arches, and, terminating at the cornice level in corbels of leaf sculpture, carry transverse timber arches supporting the timber ceiling, which is partly decorated in colour. The clearstory, and, indeed, the church generally, is lighted by traceried windows, nearly every window being of different design. The chancel is also terminated with a traceried window, which it is hoped may be filled with painted glass. The chancel is separated by arcades from a choir transept, over which is the organ chamber on the north side, and from an ambulatory which communicates with the vestries on the south. The choir seating is of fumigated oak, that of the nave being of sequoia wood. The pulpit, also of fumigated oak set on a stone base, is the gift of Mr. A. M. Chance. The builders were Messrs. John Bowen & Sons.

EXTENSION OF ST. ANDREW'S SCHOOLS, WIGAN.—The foundation-stone of an extension of St. Andrew's Schools, Wigan, was recently laid. The architects for the work are Messrs. Heaton, Ralph, & Heaton, whilst the new premises will be built by Alderman C. B. Holmes.

EXTENSION OF U.F. CHURCH TRAINING COLLEGE, ABERDEEN.—A scheme of extension is in contemplation in connexion with the United Free Church Training College, Aberdeen. Some time ago Mr. Wm. Kelly, architect (of Messrs. W. & J. Smith & Kelly), prepared plans of a new practising school which it is proposed to build on a site of what is known as Hector's building yard, with the frontage to John-street. These plans are at present being considered.

BUILDINGS IN ABERDEEN.—The Plans Committee of the Town Council have approved of the plans of the following new buildings in Aberdeen: Alterations and additions in connexion with premises No. 54, Skene-square, per Mr. R. G. Wilson, architect; addition to Carden House, Carden-place, per Mr. R. G. Wilson, architect; two houses on the north-west side of Wallfield-crescent, for Mr. Alexander Cheyne, builder, per Mr. A. H. L. Mackinnon, architect; additions to stonecutting sheds on the south side of Froghall-lane, for Mr. James Forbes, sculptor; alterations in connexion with premises No. 3, M'Combie's-court, per Messrs. W. & J. Smith & Kelly, architects; re-roofing of workshop on the north side of Huntly-street, for the Royal Fire and Accident Co., Ltd., per Mr. John Milne, architect; alterations in connexion with premises Nos. 43-44, Castle-street, per Mr. William Ruxton, architect; dwelling-house on the north side of Rubislaw Den South, per Mr. R. G. Wilson, architect; workshop at the rear of No. 56, Hutcheon-street; nine dwelling-houses on the west side of King-street and south side of University-road, per Mr. William Ruxton, architect; addition to premises on the east side of Old Ford-road, per Messrs. Brown & Watt, architects; fishcuring premises at North Esplanade, per Mr. Alexander Craigen, draughtsman; alterations in connexion with Robert Gordon's College, for the governors, per Messrs. Jenkins & Marr, architects; alterations in connexion with sheds on the east side of Regent-road, per Messrs. W. & J. Smith & Kelly, architects; two dwelling-houses on the south side of Elmbank-road, per Mr. John Cameron, architect; dwelling-house on the west side of Holburn-street, per Mr. John Cameron, architect; church on the east side of King-street, at its junction with Urquhart-road, for the Deacons' Court of the Commerce-street U.F. Church, per Messrs. D. & J. R. M'Millan, architects.

MUNICIPAL LODGING HOUSE, ST. PHILIP'S, BRISTOL.—With regard to the proposed municipal lodging-house to be erected in St. Philip's, the Health Committee recommend that the house shall

contain 120 beds instead of 102, as originally intended. The site selected is at the junction of Wade-street and River-street. The building will be of brick, the only freestone ornamentation being at the main entrance at the angle formed by the junction of the two streets. It will consist of basement and four floors, and the roof will be of Bridgwater tiles. The clear height from floor to ceiling on each floor will be 11 ft., except the basement, which is 10 ft. 6 in. The plans have been prepared in the City Engineer's office. The basement will contain a series of lockers for the use of the lodgers, a laundry, a lavatory, linen store, baths, boiler house, and other offices. The ground floor will comprise entrance lobby, vestibule, and corridor leading to a large reading-room, 27 ft. 6 in. by 14 ft. 6 in., beyond which will be situated the dining hall. On the right of the hall will be the main staircase, of pennant stone, leading to the floor above. There will be a lodgers' kitchen, 31 ft. by 16 ft., in which the lodgers will do their own cooking, and the arrangements will also include wash-up sinks and other requisites, while at the rear of the building there will be a large open paved yard. The residence of the superintendent will be on the ground floor, and this will be provided with a separate entrance. The main entrance will be fitted with turnstiles. On the first, second, and third floors the accommodation in each will consist of forty cubicles, 8 ft. by 5 ft., approached by corridors, 4 ft. 3 in. in width. Each cubicle will have a separate door and window, and screen walls will form the partition. The estimated cost of building, including site, but exclusive of furniture, is 7,100*l.*—*Western Press.*

NEW BRIDEWELL, DUBLIN. — A new central Bridewell for Dublin is being built at the west side of the Police-courts. The building has a frontage of 170 ft., and is 40 ft. high and 45 ft. deep. It will provide accommodation for upwards of 130 prisoners, in fifty-two cells. In many cases each cell will be occupied by only one prisoner. There are, however, a number of cells—about thirty—which will contain more than one inmate, one of them having as many as six beds. The single cells are 13 ft. 9 in. long by 6 ft. 8 in. wide, and 9 ft. 6 in. high, while the largest of the common cells is 38 ft. long by 13 ft. 9 in. wide. On the ground floor there will be accommodation for nineteen men and fifteen women, while on each of the two floors higher there will be cells for seventeen women and thirty men. There are 122 beds altogether. In addition to the cells there are apartments for an inspector, offices, dayrooms, male and female warders' rooms, men's and women's receiving-rooms, escorts' offices, &c. The roof is a flat concrete and asphalte one, while the centre of it will be covered with glass in order to light the corridors beneath. On the top of the building is a studio and darkroom for photographing the prisoners and developing the photos. The whole building will be heated with hot air on the Plenum system. The floors are of concrete and expanded metal. The building will be connected with the police-courts by an underground passage. The contractors for the work are Messrs. John Lowry & Son, Belfast, and the architect is Mr. J. H. Pentland, of the Board of Works.

HALL AND BRANCH PUBLIC LIBRARY, EDINBURGH.—The plans of the new Nelson Hall and Branch Library in Leith Walk are now before the Dean of Guild Court. The front buildings towards Leith Walk have been made three stories high, and those towards M'Donald-road two stories. The Nelson Hall and the Library, which are behind, are kept one story. The two upper flats towards Leith Walk contain a house for the librarian and for a caretaker, entering by a separate stair from Leith Walk. The upper floor, towards M'Donald-road, contains a large hall, which it is proposed to fit up as a gymnasium. It measures 55 ft. by 30 ft. wide, and retiring-rooms and lavatories have been provided. The corner has been emphasised with an octagonal and round tower. The main entrance is placed near the corner in M'Donald-road, and leads into a large entrance hall, from which access is obtained to the library and halls. On the plan, right in front of the entrance is the lending library—46 ft. by 30 ft.—where accommodation is provided for 20,000 volumes. To the left of the library, occupying the frontage to Leith Walk, is the reading-room, measuring 55 ft. by 21 ft. It is separated from the library by a row of columns and arches. The lower part of the tower is formed into a large corner oriel window. This room will be supplied with newspapers, weeklies, magazines, &c. The Nelson Hall measures 78 ft. long by 50 ft. wide, and is divided by two rows of columns and arches, which in turn carry the open roofs. The main part of this hall will be lighted from the roof, but the front portion will have large mullioned windows to the front. The whole of the building will be heated with hot water and lighted with electric light. The architect is Mr. H. Ramsay Taylor (of Lessels & Taylor).

HOME FOR CRIPPLES, BANGOR, CO. DOWN.—The Mrs Stewart Memorial Home for Cripples, Bangor, was opened recently. The builder was Mr. James Kidd, and the sanitary fittings were by Messrs. John Dowling & Sons. The plans for the structure were prepared by Mr. W. J. W. Roome, of Belfast.

WESLEYAN CHAPEL, WALKHAMPTON, DEVONSHIRE.—The foundation-stones were laid recently of a new Wesleyan church at Walkhampton. The new building is to be erected by Messrs. Toop & Sons, of Horrabridge, from designs by Mr. H. J. Snell, of Plymouth. The building is to be of local stone, with brick dressings, and a slated roof.

ISOLATION HOSPITAL FOR HANDSWORTH.—Mr. W. E. Fletcher, M.B., inspector of the Local Government Board, held an inquiry at the Woodhouse Endowed School recently, into the application of the South Rotherham, Handsworth, and Kiveton Park Isolation Hospital District Committee, to borrow a sum of 16,000*l.* for the purchase of a site and erection of a hospital at Aughton. Mr. H. L. Parry said that the site was contiguous to the Rotherham and Pleasley-road, and there was easy communication by road to all parts of the district. The altitude was 325 ft. The number of beds proposed to be provided was thirty-two, and the estimated cost of the buildings was 14,301*l.*, made up as follows: Administrative buildings, 3,300*l.*; laundry, mortuary, and stables, 1,966*l.*; lodge, 367*l.*; scarlet fever block, 2,867*l.*; enteric fever block, 1,455*l.*; isolation block, 1,267*l.*; boundary walls and entrances, 800*l.*; roads and laying-out grounds, 350*l.*; drainage, 210*l.*; architect's commission, 629*l.*; furnishing wards, 640*l.*; furnishing administrative block, 450*l.*; total, 14,301*l.* Mr. J. W. Webster, (Sheffield), the architect for the hospital, explained the plans at some length.

THE EXTENSION OF LEEDS PUBLIC HOSPITALS.—The Sanitary Committee of the Leeds City Council, at a special meeting on the 18th inst., had under consideration the policy to be adopted in the letting of the contracts for the extension of the Seacroft, until lately known as the Manston Hospitals. The subject was introduced by a deputation representing the master plumbers, plasterers, slaters, and painters of the city. They requested the Committee to let the work for the extension of the hospitals, when the time came, to the separate trades, instead of, as is frequently done at present, to a general contractor. One reason for the change, they urged, was that at times they were liable to the loss of their money. The Committee decided to let the work in one contract, subject, however, to these conditions:—(1) That the contractor should have power to sub-let to such master tradesmen as might be approved of by the Committee; and (2) That a clause should be inserted requiring the chief contractor to produce to the architect a receipt for the payments to subcontractors before he himself should be paid by the Council. The meeting was presided over by Mr. E. E. Lawson (chairman), and Mr. J. T. Hall, the architect of the new hospitals, was in attendance. The extension scheme, which has already received the sanction of the Council, will cost about 200,000*l.*—*Yorkshire Post.*

PARISH HALL, CLAPTON. — The Countess of Shaftesbury laid the foundation-stone recently of a parish hall to be erected on the south-west side of St. James's Church, Clapton, on a portion of the ground which forms the freehold of the vicar. Mr. W. D. Caröe is the architect.

BUILDING TRADES' EXCHANGE, SHEFFIELD.—The Sheffield Building Trades' Exchange Company, Limited, have recently purchased from the Corporation land in Upper Charles-street and Cross Burgess-street, containing about 263 square yards, and upon it are erecting premises for the purpose of an exchange and club, with large saleshop under. The exchange has its entrance front in Cross Burgess-street. The entrance porch is 7 ft. wide, with an arched outer opening with wrought-iron gates, and with inner doors leading into a circular hall 16 ft. diameter, with columns all round it. The exchange-room opens directly from the inner hall by six doors, and is an apartment 40 ft. long, 30 ft. wide, and 18 ft. high. The secretary's office, also opening from the inner hall, and commanding a view of the exchange-room, is 14 ft. 9 in. by 14 ft. 6 in. There is ample cloakroom accommodation and a telephone boxroom. The staircase is to be of stone, 4 ft. 6 in. wide, leading up to the committee-room, 38 ft. by 14 ft. 6 in., and 14 ft. high, which will also be used for arbitration cases. A little further up the staircase is a billiard-room the same size as the exchange-room below, and a refreshment bar. In the upper floors are a committee-room, a kitchen, and a caretaker's house. There is a back staircase and a hoist from top to bottom of the building for communication from the kitchen to each floor. The saleshop is in Upper Charles-street, and is below the exchange-room. The elevations to the two streets are in brick, with stone dressings. The contractors for the work are B. Powell & Son, masons and bricklayers; J. S. Teanby, joiner; Inman & Hayhurst, plumbers; W. Proctor, slater; Hudson & Dore, plasterers; Smith & Snape, painters; T. W. Ward, ironfounder; and the architects are Messrs. Gibbs & Flockton.

AGRICULTURAL COLLEGE, WYE.—New buildings have been erected at the South-Eastern Agricultural College, Wye, and these have just been opened by the Rt. Hon. R. W. Hanbury, M.P. The new buildings and alterations to the college were begun early in 1900 and finished at Easter, 1901, Mr. T. E. Collcutt being the architect, and Mr. J. J. Wise, of Deal, the contractor. The work consisted of the extension of the quadrangle, begun in 1894, as far as the boundary of the college property, and the addition of a further wing, together with additions and rearrangements in the kitchens and other domestic buildings. The biological laboratory has hitherto been also used as a subsidiary lecture-room; this is now discontinued, a second laboratory bench has been made running down the middle of the room, so that there is now working space for thirty students. Opening from this laboratory a smaller one has been built for the professor of botany. A similar laboratory has been built for the special work of the lecturer in zoology and economic entomology. Adjoining these laboratories is the museum. The adjoining lecture-room is also new. The drawing office occupies one corner of the new quadrangle; it is 33 ft. long, and provides working space for twenty-four students. The eastern side of the new quadrangle is completed by the principal's offices and a common room for the students. The chemical laboratories occupy the ground floor of the new wing, which runs to the eastward of the main block of buildings. The general students' laboratory measures about 45 ft. by 30 ft., and gives working space for thirty students, besides other benches for special work. Separated from the main laboratory by a glazed partition is the balance-room and the larger of the special laboratories for analytical work and research; adjoining this comes a smaller room reserved for gas analysis, &c., and lastly there is a small room for furnaces, a drying chamber and space for ether extractions and other operations involving the use of inflammable liquids. The old building, formerly used as a laboratory, is now taken into the domestic offices. On the first floor of the new buildings additional students' rooms have been built, so that there is now accommodation within the college for fifty students and two members of the staff.

## *FOREIGN.*

FRANCE.—M. Puech, the sculptor, has completed the model for the monument to Jules Simon to be erected in the Place de la Madeleine. He has represented Simon as standing, with arms folded, by the side of a tribune. The pedestal is adorned by two bas-reliefs, one of them representing Simon, at the Collége de France, protesting against the *coup d'état* of 1852; the other shows him surrounded by figures symbolising his philanthropic work.——M. Daumet, the architect to the Palais de Justice, has found in the cellars of that building four ancient tapestries which formed part of the famous "Chancelleries" collection. They have been sent to the Gobelins manufactory for repair.——The General Council of the Seine has decided on the creation, at Paris, of a school of "Arts et Métiers," to be built on the site of the old abattoirs at Villejuif.——There is talk of the formation of a "Commission Archéologique" to search for and preserve antiquities in the Department of the Seine.——The city of Lyons is about to open a competition for a new fire brigade barracks.——The exhibition of works in painting executed by the candidates for the Prix de Rome has been opened at the Ecole des Beaux-Arts. The subject given was "Christ Healing the Sick, at Evening, before the Gate of a Town." Among the competitors M. Clément Gontier, a pupil of M. J. P. Laurens, has produced a very good work. The award is not yet made.——At Lyons a building is to be erected as a conservatoire of music together with a concert hall and an art exhibition gallery.

UNITED STATES.—The supervising architect of the Treasury has invited several eminent American architects to submit plans for the new building for the Department of Agriculture.——Judging from the progress made in constructing the rapid transit subway from the New York Post Office to Kingsbridge, this important work will be finished and opened for traffic in the autumn of 1903.——Plans are being prepared for a new subway in Brooklyn, the preliminaries having been approved by the city authorities.——The War Department has approved the plans for the North River bridge, from Fifty-ninth-street to Weehawken, New York. The bridge is estimated to cost sixty millions of dollars.——The foundations of the public library building in Bryant Park, New York, are completed, and the contract for the superstructure awarded. The building will occupy the greater part of a city block, and will be built of marble throughout.

INDIA.—The platform and other improvement works at Lahore Railway Station have now been practically completed.——We learn that it has been decided to roof in all drinking water reservoirs connected with cantonments in India, and the work is to be taken in hand as funds become available. The object is to reduce the possibility of contamination from dust.——The Secretary of State has sanctioned the expenditure for doubling the section of the main line of the Bombay, Baroda, and Central India Railway between Dahanu and Sachin, a distance of eighty miles.

OPEN SPACES (LONDON). — The Leyton-square public garden, Peckham Park-road, has been recently opened. The freehold was acquired for 3,000*l.*, the London County Council and the Camberwell (old) Vestry contributing one-half of that sum respectively. The Metropolitan Public Gardens Association laid out the ground at a cost of about 600*l.*

## MISCELLANEOUS.

PROFESSIONAL AND BUSINESS ANNOUNCEMENTS.—Messrs. Lincoln & Co., of Glasgow, manufacturers of fireclay goods and sanitary ware, have opened a London office at Broad-street House, New Broad-street, E.C., and have appointed Mr. Edward Huxley as their London representative.——Mr. S. G. Thacker, surveyor, has changed his address from 22, Montague-street, Russell-square, to 90, High Holborn.

INCORPORATED CHURCH-BUILDING SOCIETY.—This Society held its usual monthly meeting on the 18th inst. (being the last for the present session) at the Society's house, 7, Dean's-yard, Westminster Abbey, S.W., the Rev. Canon C. F. Norman in the chair. Grants of money were made in aid of the following objects, viz.:—Building new churches at Badshot Lea, St. George, near Farnham, Surrey, 75*l.* for the first portion; Bristol, All Hallows, 200*l.* in lieu of a former grant of 150*l.*; and towards enlarging or otherwise improving the accommodation in the churches at Alberbury, St. Michael and All Angels, near Shrewsbury, 15*l.*; Clapham, St. Peter, Surrey, 70*l.*; Claverley, All Saints, near Bridgnorth, Salop, 30*l.*; Fletton, St. Margaret, near Peterborough, 20*l.*; Hoo, All Hallows, near Rochester, 10*l.*; Landulph, St. Dilphe and St. Leonard, near Hatt, Cornwall, 50*l.*; Stepney, St. Faith, Middlesex, 100*l.*; Tetbury, St. Mary, Glos., 10*l.*; Ticehurst, St. Mary, near Hawkhurst, Kent, 20*l.*; and Tremaine, near Egloskerry, Cornwall, 15*l.* Grants were also made from the special Mission Buildings Fund towards building mission churches at Cowper Quay, near Blyth, Northumberland, 20*l.*; and Walthamstow, St. Luke, Essex, 50*l.* The following grants were also paid for works completed:—Carlisle, St. Aidan, Cumberland, 1,000*l.*; Douglas, St. Matthew, Isle of Man, 130*l.*; Eastleigh, Church of the Resurrection, Hants, 200*l.* on account of a grant of 250*l.*; Notting Hill, St. Columb, Middlesex, 220*l.* on account of a grant of 250*l.*; Horndon-on-the-Hill, St. Peter and St. Paul, Grays, Essex, 25*l.*; and Bishopwearmouth, St. Gabriel, Sunderland, 50*l.* In addition to this, the sum of 134*l.* was paid towards the repairs of thirteen churches from Trust Funds held by the Society.

CHARTERED INSTITUTE OF PATENT AGENTS.—In terms of the Register of Patent Agents' Rules, 1889-91, will be held next autumn a final qualifying examination of candidates for certificates entitling them to be entered in the Register of Patent Agents. The examination is open to pupils or assistants during seven consecutive years of registered patent agents, to solicitors of the Supreme Court of Judicature in England or Ireland, or law agents of the Court of Session in Scotland, and to persons who have passed certain preliminary examinations at our Universities, the entrance examinations for Woolwich or Sandhurst, the Civil Service Examinations for first-class clerkships, or for the Indian Civil Service, to Whitworth scholars or exhibitioners, Associates of King's College, London (Engineering and Science Department), to Bachelors of Science of Durham University, &c. The scientific portion of the examination extends to applied mechanics; electricity, chemistry, and heat; and mechanical drawing; and candidates will be examined in the law and practice relating to patents, trademarks, and designs, foreign patent law and practice, case law, the preparation and interpretation of specifications, and manufacturing processes.

THE NEW PUBLIC BUILDINGS.—In the House of Commons, on the 18th inst., Mr. Lewis asked the Secretary to the Treasury whether he could state the remuneration fixed by the agreements entered into with the architects for the new War Office, Whitehall, the new Public Offices, Westminster, and the Science and Art Buildings, South Kensington, and whether such remuneration had been fixed as a lump sum or by way of commission on the total cost; if so, at what rate per cent., and whether the commission was subject to variation in respect of additional, substituted, or abandoned works; and could he say who were the architects appointed under the agreements, and what was the amount of commission payable to each, assuming that the work was carried out on the present plan.—Mr. Austen Chamberlain: I am informed by my right hon. friend the First Commissioner of Works that the amounts in each case were fixed by agreements with the architects as follows:—For the new War Office, 23,750*l.*; for the new Public Offices, Westminster, 26,000*l.*; for the Science and Art Buildings, South Kensington—(*a*) Victoria and Albert Museum, 25,000*l.*, (*b*) Royal College of Science, 10,000*l*—total, 35,000*l.* These lump sums were arrived at by taking a percentage of 5 per cent. by way of commission on an agreed total estimated cost, and they are subject to variations as stated by the hon. member. If more details are desired the First Commissioner will be happy to show the agreements to any hon. members who may wish to see them. The architects were in each case respectively the late Mr. W. Young, the late Mr. J. M. Brydon, and Mr. Aston Webb, A.R.A.

THE RICHMOND HILL VIEW.—On Friday last week at the County Hall, Spring-gardens, a conference of representatives from the London, Surrey, and Middlesex County Councils, and various public bodies, was held to consider what steps could be taken to preserve from threatened disfigurements the view from Richmond Hill. Mr. A. Torrance, Chairman of the London County Council, presided. The proceedings were conducted in private. Eventually the following resolution was unanimously passed:—"That, in the opinion of this conference, it is vitally necessary that the view from Richmond Hill be preserved, and that with that object it is expedient that those present or invited to this meeting form a general committee, with power to add to their number, for the purpose of considering what steps are necessary and practicable to attain the object desired. The general committee to have power to appoint an executive committee to prepare a scheme and report."

WIDENING OF HAMPSTEAD-ROAD.—The St. Pancras Borough Council have agreed to contribute 28,125*l.* towards the cost of widening the southern end of Hampstead-road. The total cost will be 225,000*l.*

TAPE INDICATOR MAP OF LONDON.—Messrs. C. Smith & Son, of Charing Cross, have issued a new edition of their useful indicator which enables one to find any street on the map of London at once.

DICTIONARY OF THE WORLD'S PRESS.—Mr. Henry Sell's Dictionary of the World's Press for 1901 is the "coming of age" issue of a useful and well-arranged work. The present edition has been compiled with the care which has characterised previous issues. Besides apparently exhaustive lists of newspapers and magazines published in the British Isles, and lists of foreign and colonial papers, the Dictionary contains several articles of special interest to journalists and others. There are articles dealing with newspapers and journalism of the old and new centuries; journalism and the South African War; the Institute of Journalists; American railway advertising; tariff charges of the United States and Canada, &c., &c. The work contains many portraits of journalists, and the present issue, which numbers nearly 1,000 pages, has as a frontispiece a photograph of the late Queen.

DIRECTORY OF THE ENGINEERS' AND IRON AND METAL TRADES.—We have received from Kelly's Directories, Limited, the ninth edition of their excellently-arranged and clearly-printed Directory of the Engineers' and Iron and Metal Trades and Colliery Proprietors. It comprises, according to the interesting preface, complete lists of all the various trades connected with metal, or having any connexion with engineering. It includes places, grouped under their respective countries, in England, Ireland, Scotland, Wales, the Channel Islands, and the Isle of Man, with the names of persons carrying on business in each arranged alphabetically in counties or towns; lists of trades arranged alphabetically, in London and suburbs, England, Scotland, and Wales, and Ireland, and several useful indices. The Directory also includes useful facts as to population of places and early closing and market days, and the information it contains is, as far as we are able to tell, up to date and reliable.

PROPERTY SALES.—On Tuesday next, at the Mart, Avery Hill, Eltham, which was during many years the residence of the late Colonel J. T. North, popularly known as the "Nitrate King," for whom some extensive alterations, with enlargement, of the house were carried out under the superintendence of, as we read, Mr. T. W. Cutler. The interior of the house was fitted and decorated at a lavish expense. The principal apartments include a picture gallery and ballroom, a sculpture gallery, and a Turkish bath. There are also a winter garden 100 ft. square, a large fernery, and a stud-farm.——On Thursday next, New Grove House, in The Grove, Hampstead, formerly occupied by the late George Du Maurier, who, in 1894, removed thence to No. 17, Oxford-square, W., where he died on October 8, 1896; and the adjacent premises consisting of the Holly Bush tavern and the Hampstead Constitutional Club, which, with the large garden and the three adjoining cottages in The Grove, cover a building site of nearly 10,000 ft. superficial, with frontages to Holly-hill and Hollymount. In October, 1796, George Romney, who first took lodgings at Hampstead in 1788, bought the copyhold of the old red-brick house on The Mount, in Heath-street. In 1799 he removed to some premises in the rear, which he had built for himself on Holly-hill, facing Holly-mount, comprising a large gallery for pictures and statues, at a cost of nearly 3,000*l.* In 1808, six years after Romney's death, his residence at Holly-hill was taken by the Committee of the Assembly, or New Subscription, Rooms. The premises, of Romney's time, now constitute the tavern and the clubrooms, the large timber-framed clubroom, upon a brick basement, being his studio or gallery, as converted for purposes of the assemblies; the parlour, kitchen, and offices of the club were, it seems, added about eighty-five years ago, by means of a tontine for an enlargement of the Assembly Rooms. We published a view of the tavern and the club premises in our number of July 23, 1898.

FIRE PREVENTION.—Count Kamarowsky, President of the International Fire Council, which held its Congress at Berlin last month, is now on a visit to London. The International Council proposes to form a Technical Research Committee on the Continent, with objects not unlike those of the British Fire Prevention Committee, and it was with the view of deciding on the preliminary arrangements that Count Kamarowsky made a careful inspection of the London Committee's Testing Station, and several public buildings in which fire preventive measures have been applied. Facilities were also accorded him to view the stations of the Metropolitan Fire Brigade and the London Salvage Corps.

TESTIMONIAL TO A BOROUGH SURVEYOR.—As a result of the London Government Act, 1899, the District Board of Works Office at Putney has been abolished, and the Council of the new Borough of Wandsworth have awarded the former surveyor, Mr. J. C. Radford, a liberal retiring allowance which he takes with him into private practice, after twenty-five years' public service. The ratepayers of Putney have also subscribed for a valuable service of plate to be presented to Mr. Radford.

ARBITRATION CASE.—The award of the arbitrators has been made in respect of work done in the erection of a house in Vernon-road, Edgbaston, by Hiram Willcox, late of Bradford-street, builder, for Mr. Charles Sharp Smith, architect, of Cannon-street. The work was done under contract on an estimate based on quantities supplied by the architect, who measured up the variations and claimed a balance of 66*l.* 0s. 10d. in his own favour, based on a claim for penalty for alleged delay and other matters. The builder's statement on a valuation by his surveyor showed a balance due to him of 258*l.* 16*s.* 8d. The arbitrators, who awarded 227*l.* as due to Mr. Willcox, were Messrs. Anthony Rowse and J. Kirkham Dale. Mr. O'Connor appeared as solicitor for Mr. Willcox, and Mr. Tanner for Mr. Sharp Smith.—*Birmingham Daily Gazette.*

## CAPITAL AND LABOUR.

THE PENRHYN QUARRY.—As has already been stated, the Penrhyn Quarry was reopened on the 11th ult. with something under 600 men, or rather less than a quarter of the usual number. The output during the first quarry month (four weeks) was over 2,000 tons of slates, and every week, we are informed, some fresh men and boys resume work, about eighty having gone in during the past six weeks. The workmen now employed held their first meeting on pay Saturday, the 20th inst., and passed the following resolution:—"We, the workmen in the Penrhyn Quarry, wish to tender our hearty thanks to Lord Penrhyn for the generous bonus of 5 per cent. given to us this month in addition to the 5 per cent. rise given to us voluntarily by Lord Penryhn in January, 1896. We also avail ourselves of this opportunity to acknowledge gratefully the constant kindness of his Lordship towards us as workmen and neighbours at all times, but especially in time of sickness and distress. Yet more do we wish to place on record our warmest thanks for the relief the funds of our Benefit Club have had by his Lordship generously taking upon himself the expenses of the hospital and the doctor's salary. Also for the help given in a quiet and unobtrusive way to the sick during their convalescence by sending them to and bearing their expenses in convalescent homes, and for other gifts we know of well enough. . . ." The above resolution has been acknowledged by Lord Penrhyn's chief agent.

SETTLEMENT OF A LEEDS BUILDING TRADE DISPUTE.—A little more than six months ago the slaters and slaters' labourers in Leeds sent in an application to the employers for an advance of wages and an alteration of rules, to date from July 1. The district officials of the Gasworkers' and General Labourers' Union met the employers a few evenings ago and reported the result of their interview to a meeting of men on the 19th inst. The slaters' labourers did not seem very pleased, and it was only after a long discussion, in the course of which it was pointed out that the masters had consented to fix the minimum wage for this kind of labour at 6½d. per hour, that the meeting passed a resolution not to strike.—*Yorkshire Post.*

TEES-SIDE BRICKLAYERS.—A ballot of the members of the Tees-side and District Master Builders' Association was taken a few days ago in regard to the Hartlepool bricklayers' dispute, when it was decided to lock out all bricklayers working on Tees-side. At a subsequent meeting, however, it was agreed to defer the lock-out for a week so that a conference might be arranged with the men's executive.

## LEGAL.

### SOUTHWARK BUILDING DISPUTE.

THE case of Davis *v.* Gibbs and another came before the Court of Appeal, composed of the Master of the Rolls and Lords Justices Vaughan Williams and Stirling, on the 22nd inst., on the appeal of the defendants in the action from an order of Mr. Justice Bucknill in chambers obtained by the plaintiff giving him leave to sign summary judgment under Order XIV.

Mr. Bassett Hopkins appeared for the appellants (defendants), and Mr. Norman Craig for the respondent (plaintiff).

It appeared from the statement of Mr. Bassett Hopkins that the plaintiff was the trustee in the bankruptcy of a builder named Ham, and he claimed 744*l.*, the balance certified as due by the architect under a building contract for work and labour done at the Gibraltar public-house, St. George's-road, Southwark. The defence, which was in the nature

of a counter claim, was that, under the agreement, if the work was not completed by a given day a penalty of 10*l.* a week was to be paid by the builder until the work was completed. The work, by the contract, was to have been finished in twenty-two weeks from its commencement in September, 1899, namely, in February, 1900, whereas the final certificate of the architect was not given until March, 1901, so that the delay had gone into over a year. The Master had given the defendants leave to defend the action if they brought the whole amount of the claim into Court. Mr. Justice Bucknill, however, varied the order, and leave to defend was given if 450*l.* was brought into Court. The learned counsel contended that the defendants were entitled in the circumstances to unconditional leave to defend. The business had to be carried on by the publicans during the whole time that the house was being rebuilt, and that, apart from the liquidated damages for delay and inconvenience, they had also suffered a very great loss to business from the time the work had been about. He submitted, therefore, that there was a distinct cause of action raised by the counter claim, apart from the question of liquidated damages, and that unconditional leave to defend ought to be given.

The Master of the Rolls asked the cause of the delay.

Mr. Bassett Hopkins said that his witnesses attributed it in no small measure to the impecuniosity of the builder. The publicans had faithfully paid as and when the architect gave his certificates.

The Master of the Rolls: It seems that you have made out a good case. These were licensed premises, and I can very well understand that the publicans suffered damage far in excess of 10*l.* a week.

Mr. Norman Craig, for the plaintiff, said that there was no defence that the sum claimed was due. What the defendants said was that their counter-claim came to more than the claim, but, extra work having been ordered, the penalty clause for non-completion by a certain date became void.

Lord Justice Vaughan Williams asked the learned counsel what evidence he had of extra work having been ordered.

Mr. Norman Craig read an affidavit by the builder to the effect that he could not get on with the work for several days, owing to the defendants not having obtained the necessary sanction of the ocal Authority.

The Master of the Rolls: Even supposing that the statements in the affidavit were proved at the trial, the defendants would still be entitled to damages sustained to their trade. Besides, there is nothing there about extra work being ordered.

Mr. Norman Craig said that if the contract had not been a good one, the Receiver would never have brought the action, for it would have been a loss instead of a gain to the estate. If the counter-claim were not struck out, the result of it would be that the builder had done some 744*l.* worth of work on the public-house, and the damages for non-completion would wipe out the bill—and more, possibly.

In the result the Master of the Rolls, in giving judgment, said that the appeal must be allowed. In his opinion, having regard to the fact that the premises were licensed premises and business was being carried on during all the time the rebuilding was in process, there was a substantial and not a nebulous defence. He thought the defendants were entitled to unconditional leave to defend. The order appealed against would therefore be set aside and the issue go to trial in the ordinary way.

The Lords Justices concurred.

Order accordingly.

## RECENT PATENTS:

### ABSTRACTS OF PATENTED INVENTIONS.

5,617.—A BOILER FOR HOT-WATER APPARATUS: *G. Newsum and F. Newsum.*—The boiler, which is adapted for apparatus for heating buildings, has a waggon-shaped and corrugated fire-box with an arched crown; a hopper serves for the introduction of fuel, and openings are provided for the escape of the products of combustion.

5,632.—CONTRIVANCES FOR USE IN ROOF-GLAZING: *R. White.*—The lower edges of the glass sheets are supported at the ends of the bars with clips or stop pieces fashioned out of metal rods, strips, or wires bent crosswise around the bars and fastened with bolts, or the ends of the rods and wires may be bent or twisted through holes in the bars; in one shape a bolt beneath the bar clips a flanged stop-plate to the notched end of the bar, the plate being provided with drainage holes.

5,659.—MANUFACTURE OF CEMENTS, CONCRETES, &C.: *W. Wright.*—The inventor seeks to furnish means of improving the setting and working properties of Portland, Roman, and other cements with concretes and artificial stone compounds, particularly those that contain chalk, which are made up in the shapes of paving bricks and slabs, window-sills, and similar goods. In preparing the cement he mixes carbonate of potash or some other alkali with the water, or combines sulphur with a strong alkali, and after the material has become set he hardens it with sulphuric acid.

5,664.—METAL COLUMNS: *R. Rau.*—For enhancing the strength of long columns and for ornamenting their exterior a sheath is cast around a tubular wrought-iron core and is left to form part of the finished column; water, or saturated steam or air, is circulated through the core in order that it may not become too heated, and its temperature may then be increased, before the process of casting, by the admission of hot air or superheated steam.

5,670.—FEED MECHANISM FOR CIRCULAR SAWS: *N. Tailby.*—In this contrivance, which constitutes an improvement of the mechanism specified in No. 24,807 of 1896, upon the axis of the main roller is pivoted an auxiliary arm, at the end of which is mounted a supplementary roller which a weight, hanging from a cord, forces against the wood, whilst the roller presses the wood upon the fence between the saw and the main feed-roller so as to serve especially for the sawing of short lengths of wood.

5,671.—AN APPLIANCE FOR USE WITH LADDERS: *A. Warburton.*—At the top of the ladder is affixed a tray or shelf for holding tools, &c., by means of side rods sliding in guides, the notched and flanged end of each rod will engage with another eye-piece or guide at the back of the ladder.

5,700.—EARTH-CLOSET APPARATUS: *M. F. Adams.*—It is contrived that the casing, which should be made of sheet iron, shall further serve as a receptacle. A handle works the earth-box, which is placed under and behind the seat.

5,704.—A FASTENING FOR SCAFFOLD-POLES, &C.: *F. Seabourne.*—For fastening the poles together in a line or angle-wise the inventor has devised U-shaped bolts or straps, which he inserts through holes cut in a squared plate and tightens with nuts when they have been put over the poles.

5,706.—A CIRCULAR-SAW GUARD: *R. Halkes.*—The front and back of the saw are covered with two shields that are hinged on to a socket mounted upon the squared end of a bracket. A slotted stay sustains the front shield so that the wood may pass freely beneath it, whilst the wood as it is passed forwards will raise the back shield. A collar in which is clamped the vertical portion of the bracket holds up the bracket for being turned (with a set-screw) in a bearing which is secured with bolts to the back of the bench, and so one can swing the shields away from the saw.

5,710.—AN ELECTRICAL CURRENT METER: *P. F. S. Tiddeman.*—For indicating the extent of exhaustion of the separate cells of a storage battery, each of them is connected with a fuse to a separate electro-magnet which under normal conditions will sustain an armature lever, but will allow the lever to fall should the cell pressure be reduced to less than any limit required, each of the levers being either hinged below the corresponding electro-magnet or suspended from a pivot. Numbered openings in a front plate register with the several indicating plates of the levers, and each lever may be caused to close the circuit of an electric bell by means of contact with a stop.

5,725.—A HINGE FOR SLIDING WINDOW SASHES: *G. H. Parker.*—The hinge, which is intended for temporary use when it is desired to swing the sash inwards, comprises two discs that are mounted upon a rod and two other discs that will turn freely upon the rod. To both the top and bottom of the sash are secured a pair of headed pins, and another pair are secured to the jamb of the window; the dovetailed slots of the discs mounted upon the rod take the heads of the pins so that after the removal of the stop-bead upon the opposite side one can turn the sash about the rod.

5,743.—APPARATUS FOR FIRE ALARMS: *E. H. Griffiths, W. C. D. Whetham, and Cambridge Sentinel Manufacturing Company.*—In order to indicate when a certain limit of temperature has been reached, a container is filled with fusible metal, or alloy, or some similar material, which will melt when the limit of temperature is attained, whilst by means of the action of a spring or gravity the alloy is caused to close an electrical circuit for the sounding of a bell alarm, and so on. In one modification a glass or some other insulating piece which is supported by a weighted metal arm reposes upon the alloy that is laid within a metal cup; in another form the alloy is laid in a tube which is inclined at its base and can be turned upon a lug for purposes of resetting; the alloy, as it melts, effects contact with an insulated wire that is inserted through an insulating plug at the upper end of the tube.

5,747.—A CONTRIVANCE FOR USE WITH DRAWING COMPASSES: *E. T. Boden.*—The insertions or removable points of half-sets of mathematical compasses are adjusted and secured by means of a slotted flat piece which is fixed between the sides or jaws of a grooved arm; grooves are made in the flattened ends of the insertion pieces and will correspond with the solid portions of the strips which have grooves that will fit over the solid flattened portions of the removable points; in some cases the entire shank of the pin-point may be flattened.

5,755.—AN ELECTRICAL INSULATING MATERIAL: *C. Jung, A. Brecher, and A. Kittel.*—Castor, rape, or linseed oil is mixed and kneaded with casein; sulphur may be added, and gutta-percha or some other suitable substance is then added to the mixture.

5,758.—A CIRCULAR SAW: *G. Schlegelmilch and F. A. Mann.*—The main shaft will drive a chain placed in gear with the teeth of a chain-wheel on to which the saw—which has internal teeth—is bolted, and a screw controls the fall of a radial arm upon which the saw is mounted; provision is made for holding the work angle-wise, and several saws with distance-pieces can be clamped together when it is required to cut off an amount of short pieces.

5,768.—TRIPOD STANDS: *A. H. Dupeyron.*—The tubular legs of a telescopical stand are hinged on to the top, and when they have been extended, two projections which a spring presses into apertures in one section will fasten that section to the next one, the inclined edge of one of the projections will be pressed inwards as the upper section is forced down upon it, so that the leg can be shut up by only pressing inwards the catch of the top section; a disc that may have a ball-and-socket joint on the top of the tripod has a screw at its centre on to which the instrument is secured.

5,790.—APPLIANCE FOR TESTING DRAINS: *F. Barrow.*—The bell-cover works within an annular chamber formed by the concentrical walls of a combustion chamber, and, as it is being worked, air will be admitted through a pipe inlet fitted with non-return valves, and, being charged with the smoke of a combustible laid upon the grating, passes away through the outlet into which is screwed a short length fitted with a non-return valve and a pressure gauge.

5,791.—A FASTENER FOR WINDOWS, &C.: *E. F. How and H. King* (*F. Hill & Co.*).—For holding fanlights and ventilation hoppers at an angle, the inventors mount the fanlight upon the pins of arms that are worked with screws in such a manner that one can withdraw the pins from engagement if it is desired to remove the fanlight. Spring catches upon the fanlight engage with holes or recesses cut in the quadrants, and a catch at the top of the fanlight will retain it when closed. For a fanlight having butt-hinges the side catches are placed near its top, and the sash can be lowered (for purposes of cleaning it) beyond the quadrants by turning the nut or turn-buckle which fastens the pivoted flange of each hopper or quadrant.

5,829.—MANUFACTURE OF ARTIFICIAL STONE: *F. F. de Naeyer.*—Small quantities of powdered asphalt or tar, or concentrated gas tar mixed with pulverised coal-cinders, together with sulphate and aluminate of soda, are mixed up with dry sand and cement or lime, and there may be added an admixture of quicklime and powdered coal-cinders. The moulds containing the compound are treated with boiling water, and then with super-heated steam at a pressure of six or seven atmospheres.

5,843.—BRICKS AND BLOCKS FOR BUILDERS' USE: *W. Wright.*—The blocks and bricks are fashioned with plain, ornamented, coloured, or glazed tile faces. In the case of outside work the faces may be weathered or inclined, and the faced bricks may be made in the shape of ornamental weather tiles.

5,852.—A CONTRIVANCE FOR CLOSET-SEATS: *H. H. Green.*—In order to provide adjustment for different heights and the unevenness of the floor-level, the inventor devises screw feet for the brackets or standards that support the seat.

6,073.—A DISCONNECTIBLE COUPLING FOR FLUSHING-PIPES: *E. H. Burgess.*—Flushing-pipes are connected to the horns of closet-basins with an indiarubber ring set in a rounded flange that is pressed against the horn by a screwed sleeve, which is made fast with a set-screw, and is fitted upon a ring which is attached to the inlet-pipe.

## MEETINGS.

**SATURDAY, JULY 27.**

*Builders' Foremen's Association* (*Memorial Hall, Farringdon-street*).—Quarterly meeting. 7.30 p.m.

**MONDAY, JULY 29.**

*Institution of Junior Engineers.*—Visit to Electric Lighting and Tramway Installation of the East Ham District Council, Nelson-street, East Ham. 6.30 p.m.

## SOME RECENT SALES OF PROPERTY:

### ESTATE EXCHANGE REPORT.

July 6.—By G. S. ANDREWS (at Norwich).

| | |
|---|---|
| Old Buckenham, Norfolk.—The Hall Farm, 232 a. 0 r. 26 p., f. and c. | £3,800 |

July 10.—By W. R. NICHOLAS & Co. (at Hereford).

| | |
|---|---|
| Cusop, Hereford.—Tycoch Farm, 159 a. 0 r. 36 p., f. | 2,400 |

July 11.—By BIDWELL & SONS (at Ely).

| | |
|---|---|
| Hilgay, Norfolk.—Beaton's Old Farm, 595 a. 2 r. 3 p., f. | 8,025 |
| Southery, Norfolk.—Brandon Creek Farm, 150 a. 3 r. 35 p., f. | 3,700 |

July 12.—By Messrs. COBB (at Sittingbourne).

| | |
|---|---|
| Lynsted, Kent.—Monk's Farm, 30 a. 1 r. 13 p., f. | 840 |
| Boyle Farmhouse and 17 a. 1 r. 13 p., f. | 1,900 |
| A freehold orchard and two cottages, 5 a. 2 r. 38 p. | 1,250 |
| Three freehold cottages and 0 a. 2 r. 11 p. | 320 |
| School House Field, 5 a. 3 r. 11 p., f. | 450 |
| Milsted Field, 4 a. 0 r. 34 p., f. | 420 |
| Races Orchard, 1 a. 1 r. 30 p., f. | 400 |
| Cellar Hill House and 4 a. 2 r. 16 p., f. | 1,700 |
| Nailbourne Cherry Orchard, 13 a. 1 r. 9 p., f. | 3,650 |
| Newhouse Farm, 123 a. 3 r. 38 p., f. | 8,200 |
| Blacklands Enclosure, 14 a. 0 r. 9 p., f. | 735 |
| Tickham Farm, 46 a. 2 r. 3 p. f. | 2,200 |
| Four cottages and 0 a. 0 r. 30 p., f. | 375 |
| Seward's Farm, 148 a. 2 r. 1 p., f. | 7,700 |

Lynsted-street Orchard, 3 a. 2 r. 6 p., f. ..... £1,225
Old Park Enclosure, 13 a. 2 r. 6 p., f. ..... 840
Two houses and shops, six cottages, and 2 a. 0 r. 29 p., f. ..... 1,485

By MILLAR, SON, & CO.

Harrow, Middlesex.—1 and 3, Northwick-villas, u.t. 50 yrs., g.r. 12*l.* ..... 310
Marlborough-rd., a freehold stable, r. 20*l.* ..... 435
Marlborough-hill, 17 plots of building land, f. ... 1,990
Marlborough-hill, f.g.r. 20*l.*, reversion in 69 yrs. ..... 505

By PHYSICK & CO.

Marylebone.—1, 1a, 2, and 2a, William-st., u.t. 77½ yrs., g.r. 66*l.* 13s. 4d. ..... 3,050
Chelsea.—85 and 86, Oakley-st., u.t. 65 yrs., g.r. 21*l.* 10s., r. 130*l.* ..... 1,160
Kilburn.—Carlton-vale, three freehold building plots ..... 300

By R. PRICE & SON.

Wandsworth.—12, Dent's-rd., u.t. 79 yrs., g.r. 7*l.* 16s., e.r. 48*l.* ..... 410

By TRAFFORD & CARTER.

Plaistow.—47, Whitwell-rd., f. ..... 245
Southwark.—48, Pardoner-st., f. ..... 725
Bethnal Green.—25 and 27, Palm-st., u.t. 31 yrs., g.r. 6*l.* 6s. ..... 385
Victoria Park.—375, 377, and 379, Victoria Park-rd., u.t. 36 yrs., g.r. 6*l.*, r. 90*l.* ..... 760

By WINDRAM & CLEAVE.

Plaistow.—7 to 17 (odd), Abbey rd., part f. and part u.t. 61 yrs., g.r. 8*l.* ..... 690
Poplar.—58 to 72 (even), Guildford-rd., u.t. 52 yrs., g.r. 25*l.* 4s. ..... 1,360
Stratford.—1 to 7 (odd), Marcus-st., u.t. 72 yrs., g.r. 12*l.* ..... 500

By HUSSEY & SON (at Exeter).

Brampford Speke, Devon.—Chamberlain's Farm, 43 a. 2 r. 21 p., f. ..... 2,000
Camel Plot Field, 3 a. 2 r. 34 p., f. ..... 125
Broad Park, &c., Closes, 11 a. 2 r. 1 p., f. ..... 347
Long and French Moor Orchards, 4 a. 2 r. 5 p., f. ..... 166

By SCOBELL & LAKE (at Felixstowe).

Felixstowe, Suffolk.—12 and 13, Manor-ter., u.t. 75 yrs., g.r. 3*l.*, r. 50*l.* ..... 590

By BEADEL, WOOD, & CO. (at Diss).

Hinderclay, Suffolk.—Five enclosures, 32 a. 1 r. 17 p., f. ..... 280
Enclosures of land, 24 a. 2 r. 33 p., f. ..... 260

By MORRIS, MARSHALL, & POOLE (at Bishops Castle).

Whitcott Keysett, Salop.—A freehold farm, 42 a. 2 r. 17 p. (in lots) ..... 2,805

July 13.—By S. WALKER & SON (at Guildford).

Guildford, Surrey.—Waterden-rd., Waterden, with builder's yard and premises in rear, f. ..... 1,200

By BIDWELL & SONS (at Norwich).

Burgh, Norfolk.—The Burgh Hall Estate, 475 a. 2 r. 18 p., f. ..... 10,750

By SEWELL & BARNES (at Norwich).

Tivetshall St. Margaret, Norfolk.—Farmhouse and 55 a. 1 r. 2 p., f. and c. ..... 750
Pulham St. Mary the Virgin, Norfolk.—A freehold farm, 64 a. 1 r. 4 p. ..... 110
Carleton Rode, &c., Norfolk.—Farmhouse and 34 a. 3 r. 16 p., part f. and part u.t. 665 yrs., g.r. nil ..... 600

By HOOKER & WEBB (at Warlingham).

Upper Warlingham, Surrey.—Main-rd., a plot of building land, 0 a. 3 r. 8 p., f. ..... 220
Main-rd., three plots of building land, f. ..... 395
Mark's-rd., fifteen plots of building land, f. .... 889
Eglise-rd., Glen View, f., r. 40*l.* ..... 800
Main-rd.. five freehold meadows, 7 a. 1 r. 29 p. 1,182
Whyteleafe, Surrey. — Godstone-rd., a corner building site, f. ..... 310

By H. DUKE & SON (at Dorchester).

Winterbourne St. Martin, Dorset.—Ashton Estate, 640 a. 1 r. 39 p., f. ..... 7,550

July 15.—By J. H. BETHELL.

Hackney.—176 to 182 (even), Well-st., u.t. 41½ yrs., g.r. 5*l.*, r. 166*l.* 8s. ..... 1,250
218, Well-st., u.t. 43¾ yrs., g.r. 6*l.* 10s., r. 65*l.* .. 860
Upton Park.—212, Gipsy-lane, u.t. 77 yrs., g.r. 6*l.*, r. 36*l.* ..... 385

By BROWETT & TAYLOR.

Sydenham. — Sydenham-rd., The Grange and Hanover Lodge, area 5 a., f. ..... 4,850
Bow.—147, Bow-rd., u.t. 28 yrs., g.r. 8*l.*, e.r. 90*l.* 700

By ELLIS & SON.

Great Tower-st.—3 and 4, Water-lane, and 5 and 6, Fowkes-buildings, u.t. 73 yrs., g.r. 370*l.*, e.r. 2,000*l.* ..... 9,950

By FIELD & SONS.

Lambeth.—2, 3, 4, and 5, Lanfranc-st., f. ..... 1,210
37 and 38, Lanfranc-st., f. ..... 655
7 to 11, Burdett-st., f. ..... 1,260
31 to 38, Murphy-st., f. ..... 1,380
Rotherhithe.—32 to 62 (even), Fawcett-rd., f. .... 6,000

By G. B. HILLIARD & SON.

Rochford, Essex.—Gusted Hall Estate, 221 a. 3 r. 13 p., f. ..... 2,600
Wallasea Island, Essex.—The Barn Farm, 223 a. 0 r. 39 p., f. ..... 1,000
Tillett Marsh Farm, 229 a. 3 r. 6 p., f. ..... 620

By MILLAR, SON, & CO.

Holloway.—1, 3, 5, and 7, Miranda-rd., u.t. 53 yrs., g.r. 40*l.*, r. 143*l.* ..... 805
2 to 32 (even), Miranda-rd., u.t 53 yrs., g.r. 160*l.*, r. 596*l.* ..... 4,355
2, 4, 6, and 8, Lysander-gve, u.t. 49 yrs, g.r. 35*l.* 10s., r. 152*l.* ..... 1,120
354 and 356, Camden-rd., u.t. 41 yrs., g.r. 12*l.*, r. 145*l.* ..... 1,200
366, Camden-rd., u.t. 41 yrs., g.r. 20*l.*, r. 75*l.* .. 375
372, 374, 378, 380, and 382, Camden-rd., u.t. 41 yrs., g.r. 100*l.*, r. 330*l.* ..... 1,815

By A. SAVILL & SON.

Tottenham.—1 to 6, Fountain-pl., also three cottages in Station-rd, and timber yard and land, total area 1 a. 3 r. 20 p., f. ..... 3,000
Abbotts Roothing, Essex.—Leader's Farm, 42 a. 2 r. 7 p., f. ..... 450
Abbott's Field, 3 a. 3 r. 10 p., f. ..... 150

By WHITE, BERRY, & TAYLOR.

Belgravia.—45, Grosvenor-pl., and 45, Dorset-mews, u.t. 39½ yrs., g.r. 28. ..... 8,800

By HENRY HENDRIKS (at Birmingham).

Stirchley, Worcester.—The Mossberg Works, area 10,186 yds., f. ..... 3,150

By FENN & CO. (at Clacton).

Little Clacton, Essex.—Shelley Lodge Farm, 59 a. 0 r. 8 p., f. and c. ..... £710

By FRANKLIN & JONES (at Reading).

Watlington, Oxon.—A freehold farmhouse, residence, and 222 a. 2 r. 21 p. ..... 2,650

By GRIFFITHS & CHENNELL (at Newmarket).

Newmarket, Suffolk.—Langrange House and 6 acres, f. ..... 10,000
Snailwell-rd., a building plot, f. ..... 760
Exning, Suffolk.—5 and 8, Heathside, f., r. 31*l.* 4s. ..... 500
Stetchworth, Cambs.—A copyhold paddock, 2 acres ..... 140

July 16.—By DAVID BURNETT & CO.

Brixton.—6 and 8, Hayter-rd., u.t. 66 yrs., g.r. 20*l.*, e.r. 100*l.* ..... 760
Brompton.—1, North-ter., u.t. 5 yrs., g.r. 8*l.*, e.r. 65*l.* ..... 100

By C. RAWLEY CROSS & CO.

Shepherd's Bush.—16, Askew-rd., u.t. 62 yrs., g r. 6*l.*, e.r. 45*l.* ..... 475
69, Lawn-pl., u.t. 91 yrs., g.r. 10*l.*, e.r. 70*l.* ..... 785
8, Hetley-rd., f., r. 42*l.* ..... 680
Acton.—2 to 20 (even), Southfields-rd., u.t. 97 yrs., g.r. 50*l.* ..... 2,500
Hildenborough, Kent.—Selby's Farm, 55 a. 2 r. 1 p., f. ..... 2,500

By DEBENHAM, TEWSON, & CO.

St. Pancras.—77 and 79, Charrington-st., u.t. 43 yrs., g.r. 12*l.*, r. 100*l.* ..... 950
Glen Cottage and 3 a. 1 r. 8 p., f., r. 14*l.* ..... 250

By FARADAY & RODGERS.

Waddon, Surrey. — Godson-rd., f.g.r. 14*l.*, reversion in 98 yrs. ..... 350
Plumstead, Kent.—Bannockburn-rd., f.g.r. 5*l.*, reversion in 95½ yrs. ..... 125
Camden Town.—37, Rochester-rd., u.t. 42¾ yrs., g.r. 5*l.*, r. 40*l.* ..... 360

By F. MILLER & REID.

Balham.—115, Ramsden-rd., u.t. 67 yrs., g.r. 5*l.* 12s. 6d., e.r. 32*l.* ..... 245

By MORGAN, BAINES, & CLARK.

Sutton, Surrey.—Robinhood-lane, Westness, f. .. 1,600

By PHILIP STOCK.

Brixton.—366, Coldharbour-lane, u.t. 40 yrs., g.r. 9*l.* 11s., r. 45*l.* ..... 445
63, Geneva-rd., u.t. 65 yrs., g.r. 6*l.*, r. 36*l.* .... 360

By A. H. TURNER & CO.

Woodspeen, Berks.—The Lee and 4 a. 2 r. 26 p., f. 1,425

By FRED. WARMAN.

Bedford-row.—11, John-st., f., e.r. 200*l.* ..... 4,000
Regent's Park.—161 and 163, Gloucester-rd., u.t. 61 yrs., g.r. 20*l.*, r. 100*l.* ..... 1,005

By S. WALKER & SON.

Winchmore Hill.—8, Park-villas, u.t. 78 yrs., g.r. 9*l.*, r. 60*l.* ..... 570
Herne Hill.—11, Deronda-rd., u.t. 57 yrs., g.r. 8*l.* 8s., e.r. 45*l.* ..... 325

By WM. WESTON.

Fulham.—74, Shorrold's-rd., f., r. 32*l.* ..... 425

By T. G. WHARTON.

East Ham.—Halley-rd., f.g.r.'s 100*l.*, reversion in 98 yrs. ..... 2,350
Fulham.—Mablethorpe-rd., f.g.r.'s 38*l.* 10s., reversion in 96 yrs. ..... 940
Bronsart-rd., f.g.r.'s 31*l.*, reversion in 96 yrs... 775

By WALTON & LEE (at Newcastle).

Doxford, Northumberland.—The Doxford Hall Estate, 609 a. 0 r. 6 p., f. ..... 32,200

By S. MEALING MILLS (at Norwich).

Norwich.—St. Giles-st., The Norfolk Hotel, area 21,060 ft., f. ..... 6,800

By ROBERTS, SON & TORY (at Yetminster).

Yetminster, Dorset —Enclosures of land, 39 a. 1 r. 32 p., f. and c. ..... 1,330

By S. & G. KINGSTON (at Spalding).

Surfleet, Lincs.—Enclosures of land, 13 a. 3 r. 3 p., f. ..... 750
Gosberton, Lincs.—Two enclosures, 16 a. 3 r. 23 p., f. ..... 855
Fleet, Lincs.—Freehold messuage and 48 a. 0 r. 32 p. ..... 2,000

By WM. ROLFE (at Masons' Hall Tavern).

Bermondsey.—Alscott-rd.,The Prince Alfred p.-h., u.t. 17½ yrs., r. 100*l.*, with goodwill ..... 2,500
Southwark.—Lant-st., The Crown p.-h., f., with goodwill ..... 1,250

July 17.—By FRANCIS DOD & CO.

Harringay.—71 and 73, Wightman-rd., u.t. 91 yrs., g.r. 14*l.* 14s., e.r. 90*l.* ..... 800
Stoke Newington.—60, 62, and 66, Spencer-rd., u.t. 57 yrs., g.r. 9*l.* ..... 640
12, Park-lane, u.t. 65½ yrs., g.r. 12*l.*, r. 52*l.* 10s. 420

By FERRIS & PUCKRIDGE.

Whitchurch, Devon.—A freehold rent-charge of 259*l.* 11s. 8d. ..... 2,975

By P. & G. GEEN.

Cheshunt, Herts.—Church Path, Ryston and St. Claire, r. 62*l.*, also l.g.r. 2*l.*, u.t. 95 yrs., g.r. 6*l.* ..... 600

By HAROLD GRIFFIN.

Battersea.—10, Musjid-rd., u.t. 76 yrs., g.r. 5*l.* .. 260
38, Granfield-st., u.t. 65 yrs., g.r. 4*l.* 5s. ..... 250
Wandsworth.—6, Oberstein-rd., f., r. 35*l.* ..... 550
4, 5, and 6, Brussels-rd., f., r. 110*l.* ..... 1,670
Battersea.—22, 24, 30, 32, 56, 58, and 64, Shillington-st., u.t. 58 yrs., g.r. 32*l.* ..... 1,365
29, Shillington-st., u.t. 58 yrs., g.r. 4*l.* ..... 215
35, Shillington-st., with yard and buildings in rear, u.t. 58 yrs., g.r. 6*l.* ..... 300
53 and 55, Este-rd., u.t. 58 yrs., g.r. 8*l.* ..... 430

By HENRY HOOPER.

Peckham.—181, Choumert-rd., f. ..... 455
Caledonian-rd.—24, Edward-sq., u.t. 39 yrs., g.r. 5*l.* ..... 260
Teddington.—Hampton-rd., St. Helier's, f., r. 90*l.* 1,175

By HUMBERT & FLINT.

South Mimms, Middx.—Nightingale Cottage, f., r. 80*l.* ..... 1,405

By G. B. SMALLPEICE & CO.

Stratford.—Station-st., f.g.r. 28*l.*, reversion in 68¾ yrs. ..... 695
84, Station-st., f., r. 16*l.* ..... 200
Stratford.—High-st., &c., i.g.r.'s 1,074*l.*, u.t. 62½ yrs., g.r. 606*l.* ..... 5,000
Martin-st., &c., i.g.r.'s 815*l.* 11s., u.t. 56 yrs., g.r. 220*l.*; also Station-st. f.g.r. 42*l.*, reversion in 56 yrs. ..... 7,000

By THURGOOD & MARTIN.

Fleet-st.—Red Lion-court, Red Lion House, u.t. 28 yrs., g.r. 10*l.*, r. 200*l.* ..... 2,200

Beckenham.—19 and 21, Wickham-rd., f., r. 38*l.* £700
South Kensington.—8, Wetherby-mews, u.t. 72 yrs., g.r. 12*l.*, e.r. 65*l.* ..... 450

By Messrs. SPELMAN (at Norwich).

Norwich.—Chapel-la., seven freehold cottages .. 575
Chapel-la., nine freehold houses ..... 1,350
Chapel-la., a piece of garden ground, f. ..... 120
91, 93, 94, and 96, Lawson-rd., f. ..... 550
Unthank-rd., &c., nine freehold building sites.. 900

By BELCHER, ADKIN, & BELCHER (at Wantage).

Childrey, Berks.—Burson's Farm, 71 a. 2 r. 31 p., f. 2,600
Enclosures of land, 21 a. 2 r. 23 p., f. ..... 1,018
Two freehold cottages ..... 250
Straightway and Whiting's Pieces, 24 a. 2 r. 15 p., f. ..... 665
Field Barn Farm, 111 a. 3 r. 4 p., f. ..... 1,600

By WATERS & RAWLENCE (at Trowbridge).

Trowbridge, Wilts.—Closes of land with buildings thereon, 20 a. 0 r. 22 p., f. ..... 1,500
Holbrook Farm, 106 a. 2 r. 18 p., f. ..... 4,500
Cockhill Brick and Tile Works, 5 a. 3 r. 2 p., f. 500
Enclosures of building land, 5 a. 1 r. 36 p., f... 590
Various enclosures of land, 38 a. 1 r. 15 p., f. .. 3,230
Westwood, Wilts.—Plot of woodland, 4 a. 0 r. 4 p., f. ..... 120

July 18.—By BEARD & SON.

Edgware-rd.—26, 30, 32, and 34, Church-st., u.t. 20½ yrs., g.r. 40*l.*, r. 220*l.* ..... 1,580

By DEBENHAM, TEWSON, & CO.

Clapton.—141, Upper Clapton-rd., u.t. 37 yrs., g.r. 20*l.* ..... 1,050

By FAREBROTHER, ELLIS, & CO.

Regent's Pk.—28, Cumberland-ter., and 28, Cumberland-ter.-mews, u.t. 24 yrs., g.r. 52*l.* 10s. 650

By LEVENS, SON, & HOARE.

Shortlands, Kent.—Scott's-lane, a freehold site .. 350

By MONTAGU & ROBINSON.

Islington.—53, 55, and 57, Essex-rd., and 7 and 9, Church-lane, f., r. 186*l.* 10s.; also f.g.r. 5*l.*, and a peppercorn g.r., reversion in 25 yrs. ..... 3,300

By C. C. & T. MOORE.

St. George's East.—57, Cable-st., c. ..... 525
Western-passage, f.g.r. 6*l.*, reversion in 43 yrs.. 125
Commercial-rd. East.—40 to 48 (even), Morgan-st., f. ..... 2,050
45, 47, 49, and 51, Morgan-st., f. ..... 1,995
St. George's East.—14 and 20, Umberston-st., f... 710
7 and 9, Grove-st., f. ..... 1,300
Commercial-rd. East.—2 and 4, Philip-st., and 9 and 11, Pinchin-st., f. ..... 1,385
Mile End.—116 and 118, Buxton-st., and 2 and 3, Buttress-st., f. ..... 1,160
44 to 58 (even), Newark-st., u.t. 5½ yrs., g.r. 14*l.* 19s. ..... 510
82 to 110 (even), Bedford-st., u.t. 9½ yrs., g.r. 18*l.* ..... 700
10 to 20 (even), Morgan-st.; 35, 35A, and 37, Coborn-rd., u.t. 45 yrs.. g.r. 80*l.* ..... 2,000
27 to 41 (odd), Morgan-st., u.t. 45 yrs., g.r. 80*l.* 1,300
Bromley-by-Bow.—20 to 23, Morris-rd., u.t. 74 yrs., g.r. 16*l.* 16s. ..... 1,000
Mile End.—56, Lichfield-rd., u.t. 41 yrs. g.r. 3*l.* 10s. ..... 325
Leyton.—17, Beaconsfield-rd., f., r. 28*l.* ..... 315
Beaconsfield-rd., f.g.r. 12*l.*, reversion in 77 yrs. 300

By NEWBON, EDWARDS, & SHEPHARD.

Smithfield.—78, St. John-st., f., e.r. 250*l.* ..... 1,725
Holloway.—Rock-st., i.g.r. 37*l.* 16s., u.t. 70 yrs., g.r. 12*l.* ..... 1,010
Upper Tollington-rd., i.g.r. 58*l.* 10s., u.t. 41½ yrs., g.r. 4*l.* 10s. ..... 1,010
54, Penn-rd. Villas, u.t. 53 yrs., g.r. 10*l.*, e.r. 60*l.* ..... 645
Crouch Hill.—No. 48, u.t 74 yrs., g.r. 10*l.*, e.r. 60*l.* ..... 465
Ealing.—Ranelagh-rd., f.g.r. 7*l.*, reversion in 77 yrs. ..... 170
Ranelagh-rd., f.g.r. 6*l.* 10s., reversion in 67 yrs. ..... 160
Kilburn.—Carlton Vale, f.g.r. 8*l.* 16s., reversion in 80 yrs. ..... 230

By PRATT & MARSLAND.

Anerley.—119 and 119A, Anerley-rd., u.t. 57 yrs., g.r. 70*l.*, r. 135*l.* ..... 685
38 to 46 (even), Ridsdale-rd., u.t. 66 yrs., g.r. 25*l.* ..... 675
65, 69, and 81, Ridsdale-rd., u.t. 66 yrs., g.r. 14*l.* 8s. ..... 420
Sydenham.—71 and 73, Newlands Pk., u.t. 77 yrs., g.r. 20*l.*, e.r. 90*l.* ..... 585

By STIMSON & SONS.

Hampstead.—East Heath-rd., Heathside, c., r. 100*l.* ..... 2,200
Sydenham.—27, Silverdale, f., e.r. 60*l.* ..... 600
Hammersmith.—23, Brook Green-rd., c., e.r. 30*l.* 860
Walworth.—83, Mann-st., u.t. 50 yrs., g.r. 4*l.* 5s., e.r. 34*l.* ..... 375

By J. A. & W. THARP.

Bishopsgate.—25 and 26, Spital-sq., f., r. 161*l.* 4s. 3,060
27 and 28, Spital-sq., and factory premises adjoining, f., r. 662*l.* 14s. ..... 10,150
Stepney.—25, Stepney-causeway, f. ..... 335
Hackney.—51, Mare-st., with factory and shop adjoining, area 7,245 ft., f., r. 180*l.* ..... 3,245
53, 55, and 57, Mare-st., with factories in rear, area 20,525 ft., r. 310*l.* ..... 5,960
Bethnal Green.—77, 79, and 81, Hare-st., f. ..... 1,615
28, Pollards-row, f. ..... 450
27, 29, 31, and 33, Hare-st., u.t. 74 yrs., g.r. 30*l.* 2,505
Leytonstone.—85, Mornington-rd., f., r. 32*l.* .... 370

By C. P. WHITELEY.

Kennington.—5 to 13, Aulton-pl., f. ..... 3,345

July 19.—By BARKER & SON.

Leytonstone.—395, High-rd., u.t. 81 yrs., g.r. 5*l.* 5s., r. 52*l.* ..... 290
18, Woodriffe-rd., f., r. 28*l.* ..... 475

By PROTHEROE & MORRIS.

Kensal Rise.—1 to 32, Chamberlayne-mansions, f., r. 16*l.* 4s. ..... 6,000
1 to 20, The Quadrant, f., r. 527*l.* 2s. ..... 4,800
Wandsworth.—11 and 13, West Hill, u.t. 71 yrs., g.r. 14*l.*, r. 64*l.* ..... 530
Gunnersbury.—51 and 53, Wellesley-rd., u.t. 72 yrs., g.r. 10*l.* 10s. ..... 405

By SCOBELL & LAKE.

Leytonstone.—72, 74, and 76, Gurney-rd., u.t. 54¼ yrs., g.r. 10*l.* 10s. ..... 650
Kentish Town.—85 and 93, Prince of Wales-rd., f., r. 80*l.* ..... 1,400

***Contractions used in these lists.***—F.g.r. for freehold ground-rent; l.g.r. for leasehold ground-rent; i.g.r. for

improved ground-rent; g.r. for ground-rent; r. for rent; f. for freehold; c. for copyhold; l. for leasehold; e.r. for estimated rental; u.t. for unexpired term; p.a. for per annum; yrs. for years; st. for street; rd. for road; sq. for square; pl. for place; ter. for terrace; cres. for crescent; yd. for yard.

## PRICES CURRENT OF MATERIALS.

*** Our aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.

### BRICKS, &c.

| | £ s. d. | |
|---|---|---|
| Hard Stocks | 1 14 0 | per 1,000 alongside, in river. |
| Rough Stocks and Grizzles | 1 11 0 | ,, ,, |
| Facing Stocks | 2 12 0 | ,, ,, |
| Shippers | 2 8 0 | ,, ,, |
| Flettons | 1 8 6 | ,, ,, |
| Red Wire Cuts | 1 14 6 | ,, at railway depôt. |
| Best Fareham Red | 3 11 0 | ,, ,, ,, |
| Best Red pressed Ruabon Facing. | 5 5 0 | ,, ,, ,, |
| Best Blue Pressed Staffordshire | 4 4 6 | ,, ,, ,, |
| Do., Bullnose | 4 9 0 | ,, ,, ,, |
| Best Stourbridge Fire Bricks | 4 2 6 | ,, ,, ,, |
| GLAZED BRICKS | | |
| Best White and Ivory Glazed Stretchers | 13 0 0 | ,, ,, ,, |
| Headers | 12 0 0 | ,, ,, ,, |
| Quoins, Bullnose, and Flats | 17 0 0 | ,, ,, ,, |
| Double Stretchers | 19 0 0 | ,, ,, ,, |
| Double Headers | 16 0 0 | ,, ,, ,, |
| One Side and two Ends | 19 0 0 | ,, ,, ,, |
| Two Sides and one End | 20 0 0 | ,, ,, ,, |
| Splays, Chamfered, Squints | 20 0 0 | ,, ,, ,, |
| Best Dipped Salt Glazed Stretchers and Headers | 12 0 0 | ,, ,, ,, |
| Quoins, Bullnose, and Flats | 14 0 0 | ,, ,, ,, |
| Double Stretchers | 15 0 0 | ,, ,, ,, |
| Double Headers | 14 0 0 | ,, ,, ,, |
| One Side and two Ends | 15 0 0 | ,, ,, ,, |
| Two Sides and one End | 15 0 0 | ,, ,, ,, |
| plays, Chamfered, Squints | 14 0 0 | ,, ,, ,, |
| Seconds Quality | | ,, ,, ,, |
| White and Dipped Salt Glazed | 2 0 0 | ,, less than best. |

| | s. d. | |
|---|---|---|
| Thames and Pit Sand | 7 3 | per yard, delivered. |
| Thames Ballast | 6 0 | ,, ,, |
| Best Portland Cement | 34 6 | per ton, delivered. |
| Best Ground Blue Lias Lime | 25 6 | ,, ,, |

NOTE.—The cement and lime is exclusive of the ordinary charge for sacks.

| | | |
|---|---|---|
| Grey Stone Lime | 12s 6d. | per yard, delivered |
| Stourbridge Fire-clay in sacks, 28s. | od. | per ton at rly. dpt |

### STONE.

| | s. d. | |
|---|---|---|
| Ancaster in blocks | 2 0 | per ft. cube, deld. rly. dep't. |
| Bath ,, | 1 7 | ,, ,, |
| Farleigh Down Bath ,, | 1 8 | ,, ,, |
| Beer in blocks ,, | 1 6½ | ,, ,, |
| Grinshill ,, | 1 10 | ,, ,, |
| Brown Portland in blocks | 2 2 | ,, ,, |
| Darley Dale in blocks | 2 1½ | ,, ,, |
| Red Corsehill ,, | 2 5 | ,, ,, |
| Red Mansfield ,, | 2 4½ | ,, ,, |
| Hard York in blocks | 2 10 | ,, ,, |
| Hard York 6 in. sawn both sides landings, to sizes (under 40 ft. sup.) | 2 8 | per ft. super. |
| ,, ,, 6 in. Rubbed Ditto | 3 0 | at rly. depôt ,, ,, |
| ,, ,, 3 in. sawn both sides slabs (random sizes) | 1 3 | ,, ,, |
| ,, ,, 2 in. self-faced Ditto | 0 9½ | ,, ,, |
| Hopton Wood (Hard Bed) in blocks | 2 | 3 per ft. cube. deld. rly. depôt. |
| ,, ,, ,, 6-in sawn both sides landings | 2 | 7 per ft. super. deld. rly. depôt. |
| ,, ,, ,, 3-in. do. | 1 2½ | ,, ,, |

### SLATES.

| in. in. | £ s. d. | |
|---|---|---|
| 20×10 best blue Bangor | 11 5 0 | per 1000 of 1200 at ry. dep. |
| ,, best seconds ,, | 10 15 0 | ,, ,, |
| 16× 8 best ,, | 6 2 6 | ,, ,, |
| 20×10 best blue Portmadoc | 10 18 0 | ,, ,, |
| 16× 8 best blue Portmadoc | 6 0 0 | ,, ,, |
| 20×10 best Eureka unfading green | 11 2 6 | ,, ,, |
| 16× 8 ,, ,, | 6 15 0 | ,, ,, |
| 20×10 Permanent green | 10 0 0 | ,, ,, |
| 16× 8 ,, ,, | 5 12 6 | ,, ,, |

### TILES.

| | s. d. | |
|---|---|---|
| Best plain red roofing tiles | 41 6 | per 1,000 at rly. depôt. |
| Hip and valley tiles | 3 7 | per doz. ,, ,, |
| Best Broseley tiles | 48 6 | per 1,000 ,, ,, |
| Hip and valley tiles | 4 0 | per doz. ,, ,, |
| Best Ruabon Red, brown or brindled Do. (Edwards) | 57 6 | per 1,000 ,, ,, |
| Do. ornamental Do. | 60 0 | ,, ,, |
| Hip tiles | 4 0 | per doz. ,, ,, |
| Valley tiles | 3 9 | ,, ,, ,, |
| Best Red or Mottled Staffordshire Do. (Peakes) | 30 9 | per 1,000 ,, ,, |
| Hip tiles | 4 1 | per doz. ,, ,, |
| Valley tiles | 3 8 | ,, ,, ,, |

## PRICES CURRENT (*Continued*).

### WOOD.

#### BUILDING WOOD.—YELLOW.

| | At per standard. £ s. d. | £ s. d. | |
|---|---|---|---|
| Deals: best 3 in. by 11 in. and 4 in. by 9 in. and 11 in. | 14 10 0 | 16 10 0 | |
| Deals: best 3 by 9 | 13 10 0 | 14 10 0 | |
| Battens: best 2½ in. by 7 in. and 8 in. and 3 in. by 7 in. and 8 in. | 11 0 0 | 12 0 0 | |
| Battens: best 2½ by 6 and 3 by 6 | 0 10 0 | less than 7 in. and 8 in. | |
| Deals seconds | 1 0 0 | less than best | |
| Battens: seconds | 0 10 0 | ,, ,, ,, | |
| 2 in. by 4 in. and 2 in. by 6 in. | 9 0 0 | 10 10 0 | |
| 2 in. by 4½ in. and 2 in. by 5 in. | 9 0 0 | 10 0 0 | |
| Foreign Sawn Boards— 1 in. by 1½ in. by 1½ in. | 0 10 0 | more than battens. | |
| ¾ in. | 1 0 0 | more than battens. | |
| Fir timber: Best middling Danzig or Memel (average specification) | At per load of 50 ft. | | |
| Seconds | 4 10 0 | 5 0 0 | |
| Small timber (8 in. to 10 in.) | 4 5 0 | 4 10 0 | |
| Swedish balks | 3 12 6 | 3 15 0 | |
| Pitch pine timber (35 ft. average) | 2 15 0 | 3 0 0 | |
| JOINERS' WOOD. | 3 0 0 | 3 10 0 | |
| White Sea: First yellow deals, 3 in. by 11 in. | At per standard. 25 0 0 | 26 0 0 | |
| 3 in. by 9 in. | 22 0 0 | 23 0 0 | |
| Battens, 2½ in. and 3 in. by 7 in. | 19 0 0 | 20 0 0 | |
| Second yellow deals, 3 in. by 11 in. | 20 0 0 | 21 0 0 | |
| ,, ,, 3 in. by 9 in. | 19 0 0 | 20 0 0 | |
| Battens, 2½ in. and 3 in. by 7 in. | 15 0 0 | 16 0 0 | |
| Third yellow deals, 3 in. by 11 in. and 9 in. | 15 0 0 | 16 0 0 | |
| Battens, 2½ in. and 3 in. by 7 in. | 12 0 0 | 12 10 0 | |
| Petersburg: first yellow deals, 3 in. by 11 in. | 22 0 0 | 23 0 0 | |
| Do. 3 in. by 9 in. | 19 0 0 | 20 0 0 | |
| Battens | 14 10 0 | 15 10 0 | |
| Second yellow deals, 3 in. by 11 in. | 16 10 0 | 17 10 0 | |
| Do. 3 in. by 9 in. | 15 0 0 | 16 0 0 | |
| Battens | 12 0 0 | 12 10 0 | |
| Third yellow deals, 3 in. by 11 in. | 13 10 0 | 14 10 0 | |
| Do. 3 in. by 9 in. | 13 0 0 | 13 10 0 | |
| Battens | 11 10 0 | 12 0 0 | |
| White Sea and Petersburg:— First white deals, 3 in. by 11 in. | 15 0 0 | 16 0 0 | |
| ,, ,, 3 in. by 9 in. | 14 0 0 | 15 0 0 | |
| Battens | 12 0 0 | 13 0 0 | |
| Second white deals 3 in. by 11 in. | 14 0 0 | 15 0 0 | |
| ,, ,, ,, 3 in. by 9 in. | 13 0 0 | 14 0 0 | |
| ,, ,, battens | 10 15 0 | 11 10 0 | |
| Pitch pine: deals | 16 0 0 | 18 0 0 | |
| Under 2 in. thick extra | 0 10 0 | 1 0 0 | |
| Yellow Pine— First, regular sizes | 30 0 0 | 33 0 0 | |
| Broads (12 in. and up) | 2 0 0 | more. | |
| Oddments | 22 0 0 | 24 0 0 | |
| Seconds, regular sizes | 24 10 0 | 26 10 0 | |
| Yellow Pine Oddments | 20 0 0 | 22 0 0 | |
| Kauri Pine— Planks, per ft. cube | 0 3 6 | 0 4 6 | |
| Danzig and Stettin Oak Logs— Large, per ft. cube | 0 2 6 | 0 3 0 | |
| Small ,, ,, | 0 2 3 | 0 2 6 | |
| Wainscot Oak Logs, per ft. cube | 0 5 0 | 0 5 6 | |
| Dry Wainscot Oak, per ft. sup. as inch | 0 0 8 | 0 0 7 | |
| in. do. do. | 0 0 7 | - - - | |
| Dry Mahogany— Honduras, Tabasco, per ft. sup. as inch | 0 0 9 | 0 0 11 | |
| Selected, Figury, per ft. sup. as inch | 0 1 6 | 0 2 0 | |
| Dry Walnut, American, per ft. sup. as inch | 0 0 10 | 0 1 0 | |
| Teak, per load | 16 0 0 | 20 0 0 | |
| American Whitewood Planks— Per ft. cube | 0 3 0 | 0 3 6 | |
| Prepared Flooring— | Per square | | |
| 1 in. by 6 in. and 7 in. yellow, planed and shot | 0 13 0 | 0 16 6 | |
| 1 in. by 6 in. and 7 in. yellow, planed and matched | 0 13 6 | 0 17 6 | |
| 1¼ in. by 6 in. and 7 in. yellow, planed and matched | 0 16 0 | 1 1 0 | |
| 1 in. by 6 in. and 7 in. white, planed and shot | 0 11 0 | 0 13 0 | |
| 1 in. by 6 in. and 7 in. white, planed and matched | 0 11 6 | 0 13 6 | |
| 1¼ in. by 6 in. and 7 in. white, planed and matched | 0 14 0 | 0 16 6 | |

### JOISTS, GIRDERS, &c.

| | In London, or delivered to Railway Vans, per ton. £ s. d. | £ s. d. | |
|---|---|---|---|
| Rolled Steel Joists, ordinary sections | 7 0 0 | 8 0 0 | |
| Compound Girders ,, ,, | 9 0 0 | 10 5 0 | |
| Angles, Tees and Channels, ordinary sections | 8 17 6 | 10 17 6 | |
| Flitch Plates | 9 0 0 | 9 15 0 | |
| Cast Iron Columns and Stanchions, including ordinary patterns | 7 5 0 | 9 0 0 | |

### METALS.

| IRON.— | Per ton, in London. £ s. d. | £ s. d. | |
|---|---|---|---|
| Common Bars | 8 0 0 | 8 10 0 | |
| Staffordshire Crown Bars, good merchant quality | 8 10 0 | 9 0 0 | |
| Staffordshire "Marked Bars" | 10 10 0 | - - - | |
| Mild Steel Bars | 9 0 0 | 9 10 0 | |
| Hoop Iron, basis price | 9 5 0 | 9 15 0 | |
| ,, ,, galvanised | 16 0 0 | - - - | |
| (* And upwards, according to size and gauge.) | | | |
| Sheet Iron, Black.— Ordinary sizes to 20 g. | 10 0 0 | - - - | |
| ,, ,, to 24 g. | 11 0 0 | - - - | |
| ,, ,, to 26 g. | 12 10 0 | - - - | |
| Sheet Iron, Galvanised, flat, ordinary quality.— Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 20 g. | 12 10 0 | - - - | |
| ,, ,, 22 g. and 24 g. | 13 0 0 | - - - | |
| ,, ,, 26 g. | 14 0 0 | - - - | |

## PRICES CURRENT (*Continued*).

### METALS.

| | Per ton in London. £ s. d. | £ s. d. | |
|---|---|---|---|
| Sheet Iron, galvanised, flat, best quality.— Ordinary sizes to 20 g. | 16 10 0 | - - - | |
| ,, ,, 22 g. and 24 g. | 17 0 0 | - - - | |
| ,, ,, 26 g. | 18 10 0 | - - - | |
| Galvanised Corrugated Sheets.— Ordinary sizes, 6 ft. to 8 ft. 20 g. | 12 10 0 | - - - | |
| ,, ,, 22 g. and 24 g. | 13 0 0 | - - - | |
| ,, ,, 26 g. | 14 0 0 | - - - | |
| Best Soft Steel Sheets, 6 ft. by 2 ft. to 3 ft. by 20 g. and thicker | 12 5 0 | - - - | |
| ,, ,, 22 g. and 24 g. | 13 5 0 | - - - | |
| ,, ,, 26 g. | 14 5 0 | - - - | |
| Cut nails, 3 in. to 6 in. | 9 10 0 | 10 0 0 | |
| (Under 3 in. usual trade extras.) | | | |

### LEAD, &c.

| | Per ton, in London. £ s. d. | £ s. d. | |
|---|---|---|---|
| LEAD—Sheet, English, 3 lbs. & up. | 1 0 0 | - - - | |
| Pipe in coils | 15 1 0 | - - - | |
| Soil Pipe | 18 | 0 - - - | |
| ZINC—Sheet— Vieille Montagne ton | 24 0 0 | - - - | |
| Silesian | 23 10 0 | - - - | |
| COPPER— Strong Sheet per lb. | 0 1 0½ | - - - | |
| Thin ,, | 0 1 2 | - - - | |
| Copper nails ,, | 0 1 2 | - - - | |
| BRASS— Strong Sheet ,, | 0 0 11 | - - - | |
| Thin ,, | 0 1 1 | - - - | |
| TIN—English Ingots ,, | 0 1 5 | - - - | |
| SOLDER—Plumbers' ,, | 0 0 7 | - - - | |
| Tinmen's ,, | 0 0 8 | - - - | |
| Blowpipe ,, | 0 0 9 | - - - | |

### PLASTER, &c.

| | s. d. | |
|---|---|---|
| Coarse Plaster | 30 0 | per ton delivered. |
| Fine ,, | 38 0 | ,, |
| Coarse Keenes and Parian cement | 51 6 | ,, |
| Fine do. do. | 59 6 | ,, ,, |
| Robinson's Fireproof Cement | 51 6 | ,, ,, |
| Do. Finishing ,, | 56 6 | ,, ,, |
| (Exclusive of the ordinary charge for sacks. | | |
| Whiting | | ,, ,, |

### ENGLISH SHEET GLASS IN CRATES.

| | | |
|---|---|---|
| 15 oz. thirds | 3d. | per ft. delivered. |
| ,, ,, fourths | 2¾d. | ,, ,, |
| 21 oz. thirds | 3¾d. | ,, ,, |
| ,, ,, fourths | 3¼d. | ,, ,, |
| 26 oz. thirds | 4¼d. | ,, ,, |
| ,, ,, fourths | 5d. | ,, ,, |
| 32 oz. thirds | 4¾d. | ,, ,, |
| ,, ,, fourths | 6d. | ,, ,, |
| Fluted sheet, 15 oz. | 5¼d. | ,, ,, |
| ,, ,, 21 ,, | 3¾d. | ,, ,, |
| ½ Hartley's Rolled Plate | 4¼d. | ,, ,, |
| ⅜ ,, ,, ,, | 3d. | ,, ,, |
| ¼ ,, ,, | 3¾d. | ,, ,, |
| ,, ,, | 4d. | ,, ,, |

### OILS, &c.

| | £ s d. | |
|---|---|---|
| Raw Linseed Oil in pipes | per gallon 0 2 10 | |
| ,, ,, ,, in barrels | ,, 0 2 11 | |
| ,, ,, ,, in drums | ,, 0 3 1 | |
| Boiled ,, ,, in pipes | ,, 0 3 0 | |
| ,, ,, ,, in barrels | ,, 0 3 1 | |
| ,, ,, ,, in drums | ,, 0 3 3 | |
| Turpentine, in barrels | ,, 0 2 4 | |
| ,, in drums | ,, 0 2 6 | |
| Genuine Ground English White Lead | per ton 23 0 0 | |
| Red Lead, Dry | ,, 23 10 0 | |
| Best Linseed Oil Putty | per cwt. 0 9 0 | |
| Stockholm Tar | per barrel 1 10 0 | |

### VARNISHES, &c.

| | per gallon £ s. d | |
|---|---|---|
| Fine Elastic Copal Varnish for outside work | 0 16 6 | |
| Best Elastic Copal Varnish for outside work | 1 0 0 | |
| Best Elastic Carriage Varnish for outside work | 0 16 6 | |
| Best Hard Oak Varnish for inside work | 0 10 6 | |
| Best Extra Hard Church Oak Varnish for inside work | 0 10 6 | |
| Fine Hard Copal Varnish for inside work | 0 16 0 | |
| Best Hard Copal Varnish for inside work | 1 0 0 | |
| Best Hard Carriage Varnish for inside work | 0 16 0 | |
| Extra Pale Paper Varnish | 0 12 0 | |
| Best Japan Gold Size | 0 10 0 | |
| Best Black Japan | 0 16 0 | |
| Oak and Mahogany Stain | 0 9 0 | |
| Brunswick Black | 0 9 0 | |
| Berlin Black | 0 15 0 | |
| Knotting | 0 10 0 | |
| Best French and Brush Polish | 0 10 0 | |

## TO CORRESPONDENTS.

M. & C. (Amounts should have been stated).

NOTE.—The responsibility of signed articles, letters, and papers read at meetings, rests, of course, with the authors.

*We cannot undertake to return rejected communications.*

Letters or communications (beyond mere news items) which have been duplicated for other journals are NOT DESIRED.

We are compelled to decline pointing out books and giving addresses.

Any commission to a contributor to write an article is given subject to the approval of the article, when written, by the Editor, who retains the right to reject it if unsatisfactory. The receipt by the author of a proof of an article in type does not necessarily imply its acceptance.

All communications regarding literary and artistic matters should be addressed to THE EDITOR; those relating to advertisements and other exclusively business matters should be addressed to THE PUBLISHER, and *not* to the Editor.

## TENDERS.

[Communications for insertion under this heading should be addressed to "The Editor," and must reach us *not later than 10 a.m. on Thursdays.* N.B.—We cannot publish tenders unless authenticated either by the architect or the building-owner; and we cannot publish announcements of tenders accepted unless the amount of the tender is given, nor any list in which the lowest tender is under £100, unless in some exceptional cases and for special reasons.]

* Denotes *accepted.* † Denotes *provisionally accepted.*

BARNSLEY.—For the erection of three houses, Long-car-lane. Messrs. Wade & Turner, architects, 10, Pitt-street, Barnsley:—

| | |
|---|---|
| *Masonry.*—G. Haigh, Sheffield-road* | £830 0 0 |
| *Joinery.*—Turton Bros., Pontefract-road* | 295 0 0 |
| *Plumbing and Glazing.*—B. Denison, Back Regent-street* | 121 10 0 |
| *Plastering.*—C. Dryden, Doncaster-road* | 96 0 0 |
| *Slating.*—W. Scholey, Doncaster-road* | 67 1 6 |
| *Painting.*—W. Smith, Sheffield-road* | 15 0 0 |

[All of Barnsley.]

BARNSTAPLE.—For additions, &c., to the Royal and Fortescue Hotel for Mr. Jones. Mr. Arnold Thorne, architect, 16, Cross-street, Barnstaple:—

| | | | |
|---|---|---|---|
| Sanders & Karslake | £2,220 10 | Barwick & Sillifant | £1,953 0 |
| Bryant & Thorne | 2,181 0 | H. Burgess | 1,895 0 |
| W. Slee | 2,015 0 | Tucker & Sillifant, Vicarage Lawn* | 1,870 0 |
| Woolway & Sons | 1,961 0 | | |

BRIDLINGTON.—For the erection of stable, carriage houses, &c., Danes' Dyke, for Miss Dormer. Mr. J. Earnshaw, architect, Bridlington:—

A. Gardam, Bridlington ..... £351 14 0

BRISTOL.—For the completion of the Church of St. Thomas, Eastville. Mr. H. C. M. Hirst, architect, 30, Broad-street, Bristol:—

| | | | |
|---|---|---|---|
| Wm. Church | £5,828 | R. F. Ridd | £5,097 |
| M. Darnford | 5,740 | E. Walters | 5,066 |
| F. G. Love | 5,650 | R. Wilkins & Sons | 4,888 |
| Daltry & Son | 5,583 | E. Clark | 4,798 |
| E. Love | 5,360 | [All of Bristol.] | |
| C. A. Hayes | 5,157 | | |

COLCHESTER.—For the erection of Freemasons' Hall, Abbeygate-street. Mr. C. E. Butcher, architect, 3, Queen-street, Colchester:—

| | | | |
|---|---|---|---|
| Harris & Rowe | £2,494 | W. Chambers | £2,189 |
| Jas. Grimes | 2,400 | Dobson & Son | 2,180 |
| A. E. Diss | 2,300 | T. J. Ward | 2,165 |
| H. Myall | 2,279 | R. Beaumont | 2,117 |
| A. Diss | 2,250 | Jas. McKay | 2,095 |
| Drysart & Co. | 2,247 | Everett & Son, Colchester* | 2,050 |
| E. West | 2,229 | | |

CROYDON.—For the construction of brick sewer culverts ¾(1¼ miles), Mitcham-road, for the Town Council:—

Johnson & Langley, Leicester ..... £4,296 4

DEVONPORT.—For the erection of business premises, for Messrs. Shears, Stroud, & Stephens, at Albert-road. Mr. Edgar M. Leest, architect, Public Hall, Devonport:—

| | | | |
|---|---|---|---|
| A. Andrews | £1,195 0 | T. May | £1,022 0 |
| J. Paynter | 1,164 10 | G. B. Turpin | 998 0 |
| Jenkin & Son | 1,100 0 | Wakeham Bros., Plymouth* | 993 0 |
| W. E. Blake | 1,067 0 | | |

ELGIN, N.B.—For the erection of a residence, Forteath-avenue. Mr. R. B. Pratt, architect, Town and Country Bank-buildings, Elgin:—

*Masonry.*—Davidson & Hay, Elgin .....
*Carpentry.*—McKay & Son, Dufftown .....
*Plumbing.*—Ross Brothers, Elgin ..... } £900
*Slating.*—John Wilson, Dufftown .....
*Plastering.*—Brodie, Elgin .....
*Painting.*—Fordyce, Elgin .....

[Walls and grounds not included]

EPSOM.—For the erection of residence in Burgh Heath-road, Epsom. Mr. Frederick Banister, architect, The Outer Temple, London, W.C.:—

Cropley Bros., Limited, Epsom* ..... £2,637

HAYWARDS HEATH (Sussex).—For the erection of offices and buildings, Boltro road, for the Cuckfield Rural District Council. Mr. A. R. Pannett, architect, Hayward's Heath. Quantities by Mr. C. A. Kennett:—

| | | | |
|---|---|---|---|
| J. Pickard | £7,356 | Anscombe & Hedgecock | £5,319 |
| W. Wallis | 5,894 | J. Finch | 5,259 |
| P. Jenkins | 5,453 | S. Knight | 5,204 |
| Field & Co. | 5,443 | Peerless, Dennis, & Co. | 5,189 |
| T. White | 5,357 | | |

[Architect's estimate, £5,300.]

LETTERKENNY (Ireland).—For additions, &c., to dwelling-house, Kilmacrenan. Mr. J. M'Intyre, architect, Letterkenny:—

| | | | |
|---|---|---|---|
| Wm. Wilson | £171 0 0 | W. J. Mooney, Londonderry* | £129 10 0 |
| D. M. Caffrey | 151 3 8 | | |

LONDON.—For alterations to the Prince of Wales public-house, Kennington, S.E., for Mrs. E. Ashby. Messrs. Waring & Nicholson, architects, 38, Parliament-street, Westminster, S.W.:—

| | | | |
|---|---|---|---|
| J. Marsland | £309 | H. Hall | £289 |
| Lapthorne & Co. | 308 | S. Roger | 261 |
| J. Mills | 301 | | |

LONDON.—For alterations to No. 131, Kennington-road, Lambeth, S.E., for the Trustees of the Lambeth Walcot Estate. Messrs. Waring & Nicholson, surveyors, 38, Parliament-street, Westminster, S.W.—:

| | | | |
|---|---|---|---|
| Burman & Sons | £427 | Smith & Son | £417 |
| Lapthorne & Co. | 424 | S. Roger | 262 |

LONDON.—For rebuilding premises, Nos. 20 and 21, Harp-lane, Great Tower-street, E.C., for Mr. Thomas Yeo. Mr. George Pearson, architect, 58, Moorgate-street, E.C. Quantities by Mr. H. Theobald, 6, South-street, Finsbury:—

| | | | |
|---|---|---|---|
| Rider & Son | £6,837 | Killby & Gayford | £5,633 |
| Munday & Sons | 6,665 | Patman & Fotheringham, Ltd. | 5,587 |
| Johnson & Co., Ltd. | 6,897 | Lawrance & Sons | 5,554 |
| Williams & Sons | 5,850 | Mark Patrick & Son, Westminster Bridge-road* | 5,470 |
| Colls & Sons | 5,826 | | |
| Perry & Co. | 5,749 | | |
| Ashby & Horner | 5,700 | | |

LONDON.—For building shops and residential flats, Regency-street, Westminster, for Messrs. Robert Wells & Sons. Mr. A. A. Kekwick, architect, 18, Outer Temple, Strand. Quantities supplied:—

| | | | |
|---|---|---|---|
| J. Parsons | £5,250 | Jarvis & Sons | £4,574 |
| Wall & Co. | 4,929 | Patman & Fotheringham | 4,563 |
| Hosegood & Sons | 4,850 | T. G. Sharpington* | 4,349 |
| J. Carmichael | 4,699 | | |
| Smith | 4,663 | | |

LONDON.—For new drainage and sanitary work at the offices of the Guardians of the Strand Union, Henrietta-street and Maiden-lane. Mr. A. A. Kekwick, architect, 18, Outer Temple, Strand:—

Dent & Hellyer* ..... £656

LONDON.—For the erection of stables, Tudor-grove, South Hackney, for Mrs. Dukes. Mr. John Parrish, architect and surveyor, Clapton Park, N.E.:—

Edwards, Cambridge-road, E.* ..... £300

LONDON.—For alterations and additions to St. Martin's Town Hall, transforming it into the new Town Hall for the Council of the City of Westminster. Mr. John Murray, architect:—

| — | | Extra for Oak Panelling, &c., to the Council Chamber. | Extra for Marble to the Principal Staircase. | |
|---|---|---|---|---|
| Perry & Co. | £27,988 | £504 | £793 | £29,285 |
| Kirk & Randall | 28,940 | 560 | 800 | 28,300 |
| Holland & Hannen | 26,670 | 720 | 780 | 28,170 |
| Higgs & Hill, Ltd. | 26,500 | 584 | 760 | 27,844 |
| Campbell, Smith, & Co., Ltd. | 26,272 | 690 | 850 | 27,812 |
| Johnson & Co., Ltd. | 26,340 | 630 | 750 | 27,720 |
| Holliday & Greenwood, Ltd. | 25,930 | 580 | 760 | 27,270 |
| B. E. Nightingale | 25,272 | 630 | 775 | 26,677 |
| Holloway Bros. | 25,300 | 600 | 770 | 26,670 |
| Prestige & Co. | 24,877 | 525 | 780 | 26,172 |
| Maple & Co., Ltd. | 24,760 | 360 | 760 | 25,680 |
| Henry Lovatt | 24,500 | 400 | 738 | 25,638 |
| Bywaters & Sons | 23,380 | 850 | 910 | 25,140 |
| Patman & Fotheringham, Ltd.* | 22,873 | 830 | 890 | 24,593 |

## LONDON SCHOOL BOARD TENDERS.

At the last meeting of the London School Board, the Works Committee submitted the following lists of tenders. Mr. T. J. Bailey is the Board's architect:—

ABBEY-STREET SCHOOL (Bethnal Green).—For new zinc flat roof over cloakrooms, &c:—

| | | | |
|---|---|---|---|
| J. Haydon | £318 | Gibb & Co. | £225 |
| Vigor & Co. | 289 | F. & F. J. Wood | 219 |
| J. F. Holliday | 228 | J. T. Robey* | 184 |

ANN-STREET SCHOOL (Clerkenwell).—For sanitary and dra nage works:—

| | | | |
|---|---|---|---|
| L. H. & R. Roberts | £3,028 0 | J. Peattie | £2,668 0 |
| Stevens Bros. | 2,886 0 | Ashby & Horner | 2,625 0 |
| R. P. Beattie | 2,865 19 | Williams & Son | 2,502 0 |
| Willmott & Sons | 2,830 0 | Lawrance & Sons* | 2,398 0 |
| Killingback & Co. | 2,733 0 | | |

ASHBURNHAM SCHOOL (Upcerne-road, Chelsea).—For forming physical laboratory, balance-room, &c.:—

| | | | |
|---|---|---|---|
| W. R. & A. Hide | £327 | E. B. Tucker | £222 |
| Maxwell Bros., Ltd. | 324 | General Builders, Ltd.* | 213 |
| Lathey Bros. | 318 | | |
| W. Hammond | 304 | | |

BLOOMFIELD-ROAD SCHOOL (Plumstead).—Special rooms:—

| | | | |
|---|---|---|---|
| T. L. Green | £1,247 | Gregar & Son* | £1,177 |
| E. Proctor | 1,208 | | |

BLUNDELL-STREET SCHOOL (Islington).—For re-hanging sashes of windows in old portion of school:—

| | | | |
|---|---|---|---|
| Dearing & Son | £246 0 0 | Williams & Son | £196 10 0 |
| Stevens Bros. | 226 0 0 | F. W. Harris | 169 0 0 |
| C. & W. Hunnings | 224 17 6 | Thompson & Beveridge* | 153 0 0 |

CALVERT-ROAD SCHOOL (Greenwich).—For sanitary and drainage works:—

| | | | |
|---|---|---|---|
| Falkner & Sons | £3,697 | J. Appleby | £3,244 |
| H. Leney | 3,583 | J. & C. Bowyer | 3,157 |
| G. Parker | 3,548 | E. Proctor | 3,150 |
| Kirk & Randall | 3,370 | Johnson & Co.* | 3,147 |

CANTERBURY-ROAD BOYS' AND GIRLS SCHOOL (Old Kent-road).—For heating works:—

| | | | |
|---|---|---|---|
| Williams & Sons, Ltd. | £389 0 0 | Brightside Foundry & Engineering Co., Ltd. | £294 0 0 |
| Cannon & Sons | 359 0 0 | Dargue, Griffiths, & Co., Ltd. | 274 13 7 |
| Oldroyd & Co. Ltd. | 357 0 0 | Bates & Sons | 270 0 0 |
| Wippell Bros. & Row | 340 0 0 | Duffield & Sons | 227 12 0 |
| | | G. & E. Bradley* | 225 0 0 |

CATOR-STREET SCHOOL (Peckham).—For heating works:—

| | | | |
|---|---|---|---|
| J. & F. May | £645 | Fraser & Son | £492 |
| Cannon & Sons | 629 | Wenham & Waters, Ltd. | 473 |
| G. & E. Bradley | 615 | Defries & Sons, Ltd.* | 398 |
| J. Esson | 609 | | |
| Duffield & Sons | 570 | | |

CREDON-ROAD SCHOOL (South Bermondsey).—For partitions, &c., in infants' department:—

| | | | |
|---|---|---|---|
| G. Kemp | £730 | J. F. Ford | £622 |
| Rice & Son | 698 | H. Groves | 539 |
| J. C. Chalkley | 673 | H. Line* | 515 |

EDINBURGH-ROAD SCHOOL (Ladbroke Grove-road)—For heating works:—

| | | | |
|---|---|---|---|
| Wippell Bros. & Row | £753 17 6 | Turner & Co. | £586 10 0 |
| G. Davis | 660 0 0 | Brightside Foundry & Engineering Co., Ltd. | 577 0 0 |
| Dargue, Griffiths, & Co., Ltd. | 610 12 10 | Knight & Sons | 575 0 0 |
| Skinner, Board, & Co. | 605 6 0 | Duffield & Sons* | 570 0 0 |
| Oldroyd & Co., Ltd. | 602 0 0 | | |

ELM COURT (Tulse Hill).—For adaptation of building for residential school for fifteen blind children:—

| | A† | B‡ | Total. |
|---|---|---|---|
| | £ | £ | £ |
| J. F. Ford | 316 | 2,478 | 2,794 |
| Maxwell Bros., Ltd. | 326 | 2,456 | 2,782 |
| Smith & Sons, Ltd. | 306 | 2,436 | 2,742 |
| Garrett & Son | 280 | 2,215 | 2,495 |
| A. Acworth | 274 | 1,939 | 2,213 |
| Bulled & Co. | 318 | 1,810 | 2,128 |
| G. Kemp§ | 1,837 | 281 | 2,118 |
| J. & C. Bowyer* | 293 | 1,738 | 2,031 |

A†.—For the alterations and other work specified to adapt the building at rear of site for a gymnasium and caretaker's residence, including the portion of new drainage work connected therewith, and also including the provisional sum of £85.

B‡.—For additions, alterations, and other work to main building, including the new drainage in connexion therewith, together with the cleaning and painting to billiard-room outbuilding, &c. (provisional sum, amounting to £235, included).

§ This contractor appears to have reversed the items A and B.

GORDONBROCK-ROAD SITE (Brockley).—For removing and re-erecting iron buildings from the Deodar-road site:—

| | | | |
|---|---|---|---|
| Rowell & Co. | £1,723 16 6 | J. & W. T. Hunter | £1,285 0 0 |
| T. Cruwys | 1,589 0 0 | Smith & Co. | 1,229 0 0 |
| Leather & Sons | 1,437 0 0 | W. Harbrow* | 1,150 0 0 |
| Hawkins & Co. | 1,415 10 0 | | |
| Mitson & Co. | 1,399 13 8 | | |

GRANGE HILL-ROAD SITE (Eltham Park).—For removing and re-erecting iron buildings from the Mansfield-road site, Gospel Oak:—

| | | | |
|---|---|---|---|
| Rowell & Co. | £1,690 9 6 | Mitson & Co. | £1,400 0 0 |
| T. Cruwys | 1,549 0 0 | J. & W. Hunter | 1,286 0 0 |
| Leather & Sons | 1,472 0 0 | Smith & Co. | 1,179 0 0 |
| Hawkins & Co. | 1,424 10 0 | W. Harbrow* | 1,102 0 0 |

HACKNEY (Groups 2 and 3).—For repairs on schedule:—

| | Group 2. Per cent. | Group 3. Per cent. on the Schedule of Prices. |
|---|---|---|
| McCormick & Sons | +35 | +35 |
| †J. Haydon | +30 | +25 |
| ‡Bruce, Croom, & Co. | +25 | +25 |
| †Barrett & Power | +25 | +25 |
| G. Wales* | +25 | +25 |

† These firms require an additional 10 per cent. for sanitary work.

‡ This firm requires an additional 25 per cent. for sanitary work carried out under the Board's Sanitary Surveyor.

HAVERSTOCK HILL SCHOOL (St. Pancras).—For special school, domestic economy school, and schoolkeeper's house:—

| | | | |
|---|---|---|---|
| Gough & Co. | £8,850 | McCormick & Sons | £8,554 |
| Wall & Co. | 8,608 | Leslie & Co., Ltd. | 8,540 |
| Simpson & Son | 8,590 | C. Cox | 8,516 |
| Patman & Fotheringham, Ltd. | 8,589 | J. & M. Patrick | 8,300 |
| Allen & Sons, Ltd. | 8,588 | Lawrance & Sons | 8,216 |
| | | Treasure & Son* | 8,128 |

MALMESBURY-ROAD SCHOOL (Bow).—For sanitary and drainage works:—

| | | | |
|---|---|---|---|
| L. H. & R. Roberts | £3,097 | Williams & Son | £2,894 |
| Lawrance & Sons | 2,985 | Stevens Bros. | 2,744 |
| Johnson & Co. | 2,916 | J. T. Robey* | 2,280 |
| Killingback & Co. | 2,894 | | |

[See also page 93.

# COMPETITIONS, CONTRACTS, AND PUBLIC APPOINTMENTS.

*(For some Contracts, &c., still open, but not included in this List, see previous issues.)*

## COMPETITIONS.

| Nature of Work. | By whom Advertised. | Premiums. | Designs to be delivered |
|---|---|---|---|
| Fire and Police Station | Manchester | Town Clerk | July 31 |
| Masonic Hall | Egremont | J. Lowery, 59, Main-street, Egremont | Aug. 1 |
| Alteration of Ecclesall Church | Sheffield | Rev. T. Houghton, Ecclesall | Aug. 31 |
| Public Baths | Chelsea | Baths Committee, 171, Kings-road, Chelsea | Oct. 1 |
| *Public Baths and Washouses | Met. Borough of Camberwell | 150 guineas ; 75 guineas ; and 50 guineas | Oct. 29 |
| Twenty Workmen's Dwellings | Dudley | J. Gammage, Surveyor | No date |
| School for 750 Children, St. Peter's Port | Guernsey | Rev. G. E. Lee, Rector | do. |
| Laying out Ground Western Promenade | Penzance | T. H. Cornish, Town Clerk | do. |
| *New Municipal Buildings, Fire Station, &c. | Walton-on-Thames U.D.C. | 30, 20 and 10 guineas | do. |

## CONTRACTS.

| Nature of Work or Materials. | By whom Required. | Forms of Tender, &c., Supplied by | Tenders to be delivered |
|---|---|---|---|
| *Supply of Materials and Execution of Works | Lewisham Council | Surveyor, Town Hall, Catford | July 29 |
| *Purchase and Pulling Down Old Houses | do. | do. | do. |
| Farm Steading, Moss Side, N.B. | ..... | W. Reid, Architect, Saltoun-square, Fraserburgh | July 30 |
| Walling, &c., Recreation Ground, Brimrod | Rochdale Corporation | S. S. Platt, Civil Engineer, Town Hall, Rochdale | do. |
| Large Shed, Skelmanthorpe | Messrs. E. Field & Sons | J. Berry, Architect, 9, Queen-street, Huddersfield | do. |
| Improvement Works, Hawthorn-road | Bootle Corporation | Borough Engineer, Town Hall, Bootle | do. |
| Outfall Sewer | Yeovil Corporation | W. K. L. Armytage, Surveyor, Municipal Offices, Yeovil | do. |
| Cast-iron Mains, &c. | Slough Gas Company | Secretary, Gas Offices, Slough | do. |
| Additions to Workhouse | Bakewell Guardians | C. O. Francis, Architect, 5, Richmond-street, Liverpool | do. |
| Additions to Beckett Hospital, Barnsley | ..... | R. & W. Dixon, Architects, 5, Eastgate, Barnsley | do. |
| Residence, &c., Kilcooney, Ireland | Dungarvan Guardians | J. R. Dower, Poor Law Office, Dungarvan | do. |
| Warehouse, West Grimsby | Mr. G. Shoesmith | Rope & Jackson, Architects, Victoria-street, Grimsby | July 31 |
| Additions, &c., to Two Houses, Huddersfield | ..... | J. Berry, Architect, 9, Queen-street, Huddersfield | do. |
| Sewering, &c., Private Streets | Blackpool Corporation | J. S. Brodie, Surveyor, Town Hall, Blackpool | do. |
| Filter Beds, Lochornie | Lochgelly Town Council | Buchanan & Bennett, Civil Engineers, 12, Hill-street, Edinburgh | do. |
| Sewerage Works | Whitley U.D.C. | J. P. Spencer, Civil Engineer, 30, Howard-street, North Shields | do. |
| Shop Premises, &c., near Hayle, Cornwall | Mr. G. Tonkin | S. Hill, Architect, Green-lane, Redruth | do. |
| Building Work at Police Courts, Pontypridd & Porth | ..... | Cook & Edwards, Architects, Bridgend | do. |
| Industrial Hall, &c., Cork | ..... | H. A. Cutler, Civil Engineer, Municipal Buildings, Cork | do. |
| Cottage, &c., at Hospital | Auckland, &c., Hospital Board | W. Perkins, Architect, Victoria-street, Bishop Auckland | do. |
| House and Stabling, Flamborough | Mr. J. Hall | J. Shepherdson, Architect, 15, Manor-street, Bridlington | do. |
| Building Work at Workhouse | Glennamaddy Guardians | J. R. D'Arcy, Board Room, Glennamaddy | do. |
| Sewerage Works | Whitley & Monkseaton U.D.C. | J. P. Spencer, Civil Engineer, 30, Howard-street, North Shields | do. |
| Forming North-street | Alloa Town Council | Frame & Son, Architects, 43, Mill-street, Alloa | Aug. 1 |
| Mortuary Buildings, Alpha-road | Surbiton U.D.C. | J. Bell, Council Offices, Surbiton | do. |
| Additions to Workhouse, Pleck-road | Walsall Guardians | Bailey & McConnal, Architects, Bridge-street, Walsall | do. |
| Sanitary Conveniences, &c., Potternewton Park | Leeds Corporation | City Engineer, Municipal Buildings, Leeds | do. |
| Five Cottages, &c. | Louth R.D.C. | L. Turley, Civil Engineer, Council Offices, Louth | do. |
| Six Houses, &c., Darton, near Barnsley | Barnsley British Co-op. Soc., Ltd. | Senior & Clegg, Architects, 15, Regent-street, Barnsley | do. |
| Business Depot, Belfast | Messrs. Lennon Bros. | W. J. Moore, Architect, Ann-street, Belfast | do. |
| Convent Chapel, Deal | ..... | Superior, The Convent, West-street, Deal | do. |
| Cast-iron Pipes (110 tons) Glasgow | Young's Collieries, Ltd. | Johnstone & Rankine, C.E., 238, West George-street, Glasgow | do. |
| Granite and Road Metal | Bishop's Stortford U.D.C. | F. Swatheridge, Council Offices, Bishop's Stortford | Aug. 2 |
| Street Works, Cromer-road | Branksome U.D.C. | S. J. Newman, Architect, Council Buildings, Branksome | do. |
| Business Premises, Merthyr Tydfil | Miss M. Davies | E. M. B. Vaughan, Architect, Cardiff | Aug. 3 |
| Kerbing, &c., Footpaths | Bexhill U.D.C | G. Ball, Civil Engineer, Town Hall, Bexhill | do. |
| Sewering, Levelling, Paving, &c. | do. | do. | do. |
| Road Metal, &c. | Carrickfergus U.D.C. | J. Boyd, Town Hall, Carrickfergus | do. |
| Asphalting Footpaths, near Meadowfield | Brandon U.D.C. | R. Gardner, Surveyor, Langley Moor, near Durham | do. |
| Road Metal (500 tons) | Epsom U.D.C. | E. R. Capon, Surveyor, Church-street, Epsom | do. |
| Retort Houte, &c. | Ashton-in-Makerfield U.D.C. | A. Sykes, Council Offices, Ashton-in-Makerfield | do. |
| Additions to Business Premises, Cardiff | Messrs. Heitzman & Sons | Veall & Sant, Architects, 6, Arcade-chambers, High-street, Cardiff | do. |
| Additions, &c., to Inn, King's Lynn | Messrs. W. & T. Bagge | H. Tilson, Architect, Railway-road, King's Lynn | do. |
| *Offices, &c. | Birkenhead Union | See Advertisement | do. |
| Chapel, Loughor | ..... | T. Arnold, Civil Engineer, Castle Buildings, Llanelly | Aug. 4 |
| School and House, The College, Llandovey | ..... | Austin & Paley, Architects, Castle Park, Lancaster | Aug. 5 |
| Street Works, White's-lane, &c. | Cleethorpes U.D.C. | E. Rushton, Civil Engineer, Poplar-road, Cleethorpes | do. |
| 100 Houses, Penydarren, Merthyr | Merthyr Tidfil U.D.C. | J. Vaughan, Town Hall, Merthyr | Aug. 6 |
| *Gas Works | Torquay Corporation | F. S. Hex, Town Hall, Torquay | do. |
| *Additions to Public Library | Willesden District Council | O. Claude Robson, Public Offices, Dyne-road, Kilburn | do. |
| Additions to Church, Ackworth, Pontefrat | ..... | C. H. Fowler, Architect, The College, Durham | do. |
| *Electric Lighting to Three Schools | Grays Thurrock School Board | Board Room, Quarry Hill, Grays | do. |
| *Painting Works at Infirmary | Lambeth Guardians | Guardians' Offices, Brook-street, Kennington | Aug. 7 |
| *New Infirmary Building | King's Lynn Union | Chas. Smith & Son, Merchants, Reading | Aug. 8 |
| Sewage Disposal Works | Clones U.D.C. | J. H. H. Swiney, Civil Engineer, Avenue-chambers, Belfast | Aug. 9 |
| Settling tanks, &c. | Hunslet R.D.C. | Marriott & Co., Dewsbury | Aug. 10 |
| Drainage and Water Supply Works | Chipping Campdem R.D.C. | N. Lailey, Civil Engineer, 16, Great George-street, S.W. | do. |
| *Electric Lighting and Destructor Buildings | Gravesend Town Council | Borough Surveyor, Town Hall, Gravesend | Aug. 12 |
| *Outfall Sewer | Aberdeen Town Council | Burgh Surveyor, Town House, Aberdeen | Aug. 13 |
| *Municipal Offices and Town Hall | Walsall Corporation | The Town Clerk, Walsall | Aug. 24 |
| 100 Cottages | ..... | Mines & Sutherland, Ltd., 65, South John-street, Liverpool | No date |
| Stables, &c., Llandaff | Cardiff Tramways Company | J. Glenn, Engineer, 11, Queen Victoria-street, E.C. | do. |
| Schools | Staines School Board | Law & Allen, Architects, Dacre House, Arundel-street, W.C. | do. |
| Three Cottages, New-street, Andover | ..... | Luke Bull, 5, East-street, Andover | do. |
| Palisading, &c., St. Cuthbert's, Darlington | ..... | Clark & Moscrop, Architects, Darlington | do. |
| Drainage Works, &c., Hassocks | Clayton & Keymer School Board | C. Botham, Architect, 128, Queen's-road, Brighton | do. |
| Club, Hemsworth, near Wakefield | ..... | W. E. Richardson, Architect, Rothwell, Leeds | do. |
| Hospital, Brierley Common | Hemsworth R.D.C. | T. H. Richardson, Architect, Hemsworth, near Wakefield | do. |
| School, Redding | Grongemouth School Board | A. Gauld, Architect, Vicar-street, Falkirk | do. |
| Public Library | Stirling Town Couucil | Lessels & Taylor, Architects, 7A, Young-street, Edinburgh | do. |
| Twelve Houses and Shops, Tong-road, New Wortley | ..... | Mr. Maude, Tong-road, New Wortley | do. |
| House, Watnall, Notts | ..... | P. Paleston, 56, Upper Parliament-street, Nottingham | do. |

## PUBLIC APPOINTMENTS.

| Nature of Appointment. | By whom Advertised. | Salary. | Application to be in |
|---|---|---|---|
| *Clerk of Works | Newport Corporation | ..... | July 31 |
| *Clerk for Surveyor's Office | Acton District Council | 110*l.* | Aug. 6 |
| *Chief Assistant to Borough Surveyor | Cheltenham Corporation | 200*l.* | Aug. 7 |
| *Architectural and Engineering Assistant | H.M. Dockyard, Devonport | ..... | No date |
| *General Foreman | Government Northern Nigeria | 300*l.*, &c. | do. |
| *Stonemason | do. | 200*l.*, &c. | do. |
| *Foreman Bricklayer | Government South Nigeria | 240*l.*, &c. | do. |
| *Foreman Carpenter | do. | 240*l.*, &c. | do. |
| *Foreman of Works (Public Works Department) | Government Gold Coast | 250*l.*, &c. | do. |

*Those marked with an asterisk (*) are advertised in this Number.* *Competitions*, p. iv. *Contracts*, pp. iv. vi. viii. x. & xxi. *Public Appointments*, pp. xix. & xxi.

Supply of Single Desks (Nos. 1—6):—

| — | Desks, No. 1. | Desks, No. 2. | Desks, No. 3. | Desks, No. 4. | Desks, No. 5. | Desks, No. 6. |
|---|---|---|---|---|---|---|
| | Each. £ s. d. | Each. £ s. d. | Each. £ s. d. | Each. £ s. d. | Each. £ s. d. | Each. £ s. d. |
| Bennet Furnishing Co. | 0 15 9 | 0 15 6½ | 0 15 4 | 0 15 1½ | 0 14 11 | 0 14 8½ |
| T. Cruwys | 1 3 0 | 1 2 0 | 1 1 0 | 1 0 0 | 0 19 0 | 0 18 0 |
| G. M. Hammer & Co., Ltd. | 0 15 6 | 0 15 6 | 0 15 3 | 0 15 3 | 0 15 0 | 0 15 0 |
| W. H. Lascelles & Co. | 1 2 6 | 1 2 4 | 1 2 3 | 1 2 2 | 1 2 1 | 1 2 0 |
| London School Furniture Co. | *0 15 2 | *0 14 11 | *0 14 6 | *0 14 6 | *0 14 6 | *0 14 6 |

Distemper Brushes, 9 oz.; Varnish Brushes, No. 1; Sash Tools, No. 6.
Window Blinds.

| — | | | *M. Dowler & Son. | *Harriet Evans. | W. Gauron. | Janes & Son. | G. F. Janes & Co. |
|---|---|---|---|---|---|---|---|
| Brown holland or striped blinds fixed on wood rollers complete as Item 1 | | per ft. super. | s. d. | s. d. | s. d. | s. d. | s. d. |
| Ditto | ditto | as Item 2 ,, ,, | 0 3 | 0 3 | 0 5 | 0 3½ | 0 4 |
| Ditto | ditto | on tin barrel rollers as Item 3 | 0 3 | 0 3 | 0 4 | 0 3½ | 0 3½ |
| | | 2½ in. in diameter ,, ,, | 0 3½ | 0 3½ | 0 5½ | 0 3½ | 0 4 |
| Ditto | ditto | 3 in. do. do. ,, ,, | 0 3½ | 0 3½ | 0 6½ | 0 3½ | 0 4 |
| Ditto | ditto | 3½ in. do. do. ,, ,, | 0 3½ | 0 3 | 0 6½ | 0 3½ | 0 4½ |
| Ditto | ditto | on spring rollers, as Item 4 | | | | | |
| | | 2 in in. diameter ,, ,, | 0 4½ | 0 4 | 0 6 | 0 4 | 0 5½ |
| Ditto | ditto | 2½ in. do. do. ,, ,, | 0 4½ | 0 4 | 0 6½ | 0 4 | 0 6 |
| Ditto | ditto | 3 in. do. do. ,, ,, | 0 4½ | 0 4 | 0 7 | 0 4 | 0 6 |

For the supply of desks (Standard and Kindergarten):—

| — | No. 1. | No. 2. | No. 3. | No. 4. | No. 5. | No. 6. | No. 7. Kinder-garten. | No. 8. Kinder-garten. |
|---|---|---|---|---|---|---|---|---|
| | £ s. d. | £ s. d. | £ s. d. | £ s. d. | £ s. d. | £ s. d. | £ s. d. | £ s. d. |
| W. H. Lascelles & Co. | each 1 2 8 | 1 2 6 | 1 2 5 | 1 2 4 | 1 2 3 | 1 2 2 | 0 17 9 | 0 17 7 |
| Bennet Furnishing Co. | each 0 18 9 | 0 18 6½ | 0 18 4 | 0 18 1½ | 0 17 11 | 0 17 8½ | 0 13 0 | 0 12 9 |
| G. M. Hammer & Co., Ltd. | each 0 18 0 | 0 18 0 | 0 17 9 | 0 17 9 | 0 17 6 | 0 17 6 | 0 13 0 | 0 13 0 |
| London School Furniture Co. | each 0 17 6 | 0 17 6 | 0 17 4 | 0 17 4 | 0 17 3 | 0 17 3 | 0 12 11 | 0 12 10 |

Running contracts for the supply of various articles of furniture, &c.:—

| — | Abacus Frames. | Abacus Frames on Stands. | Platforms (108 sq. ft.). | Platforms (144 sq. ft.). | Movable Box Steps for Platforms. | Cast Stands. |
|---|---|---|---|---|---|---|
| | each. £ s. d. | each. £ s. d. | each. £ s. d. | each. £ s. d. | each. £ s. d. | each. £ s. d. |
| H. Bouneau | 0 10 0 | 0 13 6 | 10 8 0 | *11 4 0 | *0 9 0 | 0 5 5 |
| T. Cruwys | 0 7 0 | 0 15 0 | 11 0 0 | 12 0 0 | 0 5 0 | 0 6 0 |
| Educational Supply Association, Ltd. | 0 8 0 | 0 15 3 | 16 0 0 | 17 7 0 | 0 8 9 | 0 8 6 |
| Hammer & Co., Ltd. | *0 6 0 | 0 13 6 | 20 0 0 | 22 0 2 | 0 7 6 | 0 10 6 |
| Lascelles & Co. | — | — | 12 12 0 | 14 0 0 | 0 7 6 | 0 10 9 |
| London School Furniture Co. | 0 6 0 | *0 11 0 | *10 4 0 | 11 4 0 | *0 5 0 | *0 5 3 |
| Spencer & Co | — | — | 20 0 0 | 22 10 0 | 0 10 0 | — |

| — | Sand Boards. | Cap Stands. | Sleeve Boards, No. 1. | Sleeve Boards, No. 2. | Skirt Boards. | Washing Stools. | Tables (Laundry). | Polishing Boards. | Grooved Boards. | Copper Sticks. |
|---|---|---|---|---|---|---|---|---|---|---|
| | Each. s. d. | Each. s. d. | Per doz. £ s. d. | Per doz. £ s. d. | Per doz. £ s. d. | Per doz. £ s. d. | Per doz. £ s. d. | Per doz. £ s. d. | Per doz. £ s. d. | Each. s. d. |
| Bradford & Co. | 2 8½ | 2 8½ | 0 12 0 | 0 10 6 | 2 5 0 | 7 10 0 | 21 5 0 | 0 13 0 | 1 17 0 | 0 8½ |
| Summerscales & Sons, Ltd. | 3 4 | 3 4 | 0 12 0 | 0 11 0 | 2 8 0 | 8 8 0 | 24 0 0 | 1 10 0 | 3 0 0 | 0 10 |
| Cherry Tree Machine Co., Ltd. | ††2 9 | 3 3 | 0 10 0 | *0 8 0 | 1 16 0 | 16 18 0 | ‡16 16 0 | 0 18 0 | 2 0 0 | *0 4 |
| Thomas & Taylor, Ltd. | 6 6 | 7 0 | 1 15 0 | 1 14 0 | 4 5 0 | 18 10 0 | 29 10 0 | 3 0 0 | 7 4 0 | 3 0 |
| Waller & Co. | 3 0 | 3 0 | 1 4 0 | 1 4 0 | 2 15 0 | 13 0 0 | 24 0 0 | 3 0 0 | ... | 2 1 |
| London School Furnishing Co. | *1 8 | *1 9 | 0 11 6 | 0 9 0 | 2 2 0 | 7 10 0 | *14 8 0 | *0 13 0 | 1 4 0 | 0 8 |
| H. Bouneau | 4 3 | 2 6 | 1 2 0 | 1 2 0 | 2 5 0 | *6 0 0 | 16 4 0 | 0 13 6 | 3 6 0 | 1 1 |
| Wake & Dean, Ltd. | 1 9 | 2 0 | *0 9 0 | 0 9 0 | *1 4 0 | 7 12 0 | ... | 0 16 0 | *1 4 0 | 0 9 |
| G. H. Hammer & Co., Ltd. | 2 6 | ... | 0 15 0 | 0 12 0 | 2 2 0 | 10 10 0 | 15 0 0 | 1 0 0 | ... | ... |

† Subsequently reduced to £6 8s. 6d. ‡ Subsequently reduced to £16 2s.
†† Subsequently reduced to 2s. 6d. each.

MARLBOROUGH-ROAD SCHOOL (Chelsea).—For heating works:—

| | | | |
|---|---|---|---|
| Cannon & Sons | £995 0 | Wenham & Waters, Ltd. | £780 0 |
| Wippell Bros. & Row | 973 10 | G. & E. Bradley | 700 0 |
| J. & F. May | 930 0 | Brightside Foundry and Engineering Co., Ltd.* | 680 0 |
| Williams & Sons, Ltd. | 899 0 | | |
| G. Davis | 800 0 | | |

RENDLESHAM-ROAD SCHOOL (Upper Clapton).—For stepped flooring, &c., in infants' department:—

| | | | |
|---|---|---|---|
| J. Haydon | £135 | Silk & Son* | £91 |
| Bruce Croom, & Co. | 123 | | |

ST. DUNSTAN'S-ROAD SCHOOL (Hammersmith)—For alterations to heating apparatus:—

| | | | |
|---|---|---|---|
| Vaughan & Brown, Ltd. | £115 0 0 | Wenham & Waters, Ltd. | £51 0 0 |
| G. Davis | 98 0 0 | Werner, Pfleiderer, & Perkins, Ltd.* | 50 19 6 |
| Palowkar & Sons | 79 15 0 | | |
| Duffield & Sons | 66 0 0 | | |

ST. STEPHEN'S NATIONAL SCHOOL (Worsley-road, Hampstead).—For alterations:—

| | | | |
|---|---|---|---|
| G. Neal | £474 | Williams & Son | £364 |
| Antill & Co. | 439 | Stevens Bros.* | 324 |
| Marchant & Hirst | 429 | | |

LEVEN-ROAD SITE (Bromley-by-Bow).—For new mixed higher grade school for boys and girls. The school is a three-story building, and contains the following accommodation: — One hall (boys' and girls'), 1,912 sq. ft.; gymnasium, 1,335 sq. ft.; classrooms—ground floor, three forty-eight, two forty; first floor, three forty-eight, two forty; manual training centre for forty boys; drawing classroom, area 858 sq. ft.; science-rooms, area 1,670 sq. ft.; heating by low-pressure hot-water apparatus; area of site about 47,000 sq. ft.; playgrounds—area per child, boys', 83 sq. ft., girls', 84 sq. ft.:—

| | | If walls of classrooms and halls be plastered, add |
|---|---|---|
| McCormick & Sons | £23,910 0 0 .. | £195 |
| Dearing & Son | 23,279 0 0 .. | 315 |
| Chessum & Sons | 23,273 0 0 .. | 234 |
| F. & F. J. Wood | 23,240 0 0 .. | 310 |
| Munday & Sons | 23,020 0 0 .. | 291 |
| C. Cox | 22,997 0 0 .. | 323 |
| Perry & Co. | 22,974 0 0 .. | 295 |
| Kirk & Randall | 22,896 0 0 .. | 298 |
| Treasure & Son | 22,851 0 0 .. | 295 |
| T. L. Green | 22,586 0 0 .. | 1,093 |
| Lawrance & Sons | 22,409 0 0 .. | 291 |
| C. Wall† | 22,041 15 9 .. | 210 |
| Gregar & Son* | 21,477 0 0 .. | 249 |

† If fair internal and distempered face, &c., in lieu of glazed bricks, deduct £1,510 7s. 5d. This contractor also states that his tender is subject to the agreement being approved by his solicitor.

STOCKWELL-ROAD SCHOOL (Brixton). — For halls and other improvements:—

Providing new hall for each department, 42 ft. 6 in. by 26 ft. 6 in.; new staircases for boys' and girls' departments; cloakrooms, lavatories, and stockrooms for each department; teachers' room for girls and infants; forming babies' room and providing new kindergarten gallery; re-dividing and re-stepping centre classrooms in each department; providing platform in infants' hall; forming new infants' entrance and lobby; providing heating chamber and coal store in basement, and coal lift; new covered playground for boys; erecting cookery centre (to take the place of the iron buildings now being temporarily used for this purpose) adjoining schoolkeeper's house; heating by open fires and low-pressure hot-water apparatus; and providing new girls' and female infants' water-closets.

| | | | |
|---|---|---|---|
| General Builders, Ltd. | £14,220 | Johnson & Co., Ltd. | £13,577 |
| Williams & Son | 13,958 | F. & H. F. Higgs | 13,276 |
| Holloway Bros. | 13,836 | Garrett & Son | 13,006 |
| W. Downs | 13,737 | E. Triggs | 12,708 |
| Mitchell & Son | 13,623 | Holliday & Greenwood | 12,622 |
| J. & C. Bowyer* | £12,229 | | |

(A) TOWNMEAD-ROAD (Fulham); (B) KILMORIE ROAD (Stanstead-road, Forest Hill).—For fencing in sites for new schools:—

(A) *Townmead-road,*

| | | | |
|---|---|---|---|
| Humphreys, Ltd. | £230 | Hawkins & Co. | £190 |
| J. & W. T. Hunter | 195 | W. Hammond | 183 |
| T. Cruwys | 192 | Mitson & Co.* | 160 |

(B) *Kilmorie-road.*

| | | | |
|---|---|---|---|
| J. & W. Patrick | £249 0 0 | Mitson & Co. | £180 17 6 |
| Hawkins & Co. | 205 0 0 | W. Harbrow | 178 0 0 |
| J. & W. T. Hunter | 200 0 0 | G. Bush* | 165 0 0 |

*Painting Works.*

The work will be executed during the summer holidays—July 25 to August 24, 1901. Where exterior as well as interior work has to be done, the contractors will be allowed an additional week for the former:—

BARROW HILL-ROAD.—Painting exterior and cleaning interior:—

| | | | |
|---|---|---|---|
| T. Cruwys | £447 10 | Thompson & Beveridge | £333 0 |
| Marchant & Hurst | 426 0 | W. Chappell* | 255 10 |
| Stevens Bros. | 384 0 | | |

BOARD'S STORES.—Painting exterior:—

| | | | |
|---|---|---|---|
| Dearing & Son | £164 0 | Johnson & Co.* | £137 10 |
| T. Cruwys | 143 17 | W. Chaypell | 120 0 |

BURRAGE-GROVE.—Painting exterior and cleaning interior:—

| | | | |
|---|---|---|---|
| W. J. Howie | £551 | H. Groves | £435 |
| Johnson & Co. | 505 | E. Proctor* | 475 |
| Thomas & Edge | 495 | | |

CHATHAM-GARDENS.—Painting interior:—

| | | | |
|---|---|---|---|
| Wall & Co. | £314 | Silk & Son | £244 |
| Dearing & Son | 312 | G. Barker* | 243 |
| Stevens Bros. | 296 | | |

CHEQUER-STREET. — Painting interior (new portion):—

| | | | |
|---|---|---|---|
| F. T. Chinchen | £210 10 | Marchant & Hirst | £196 0 |
| Dearing & Son | 210 0 | G. Barker | 161 0 |
| McCormick & Sons | 207 0 | W. Chappell* | 156 10 |

CUBITT TOWN.—Painting exterior:—

| | | | |
|---|---|---|---|
| T. H. Jackson | £183 0 | J. Haydon | £134 0 |
| A. E. Symes | 175 0 | J. T. Robey* | 108 11 |
| A. W. Derby | 144 0 | | |

FINSBURY — "FORSTER." — Painting interior:—

| | | | |
|---|---|---|---|
| T. Cruwys | £426 0 0 | C. & W. Hunnings | £391 14 6 |
| G. Kirby | 408 0 0 | Stevens Bros.* | 387 0 0 |

GEORGE-STREET.—Painting exterior and cleaning interior (Boys' and girls' departments):—

| | | | |
|---|---|---|---|
| Maxwell Bros., Ltd. | £412 | W. Downs | £390 |
| H. Line | 410 | J. F. Ford | 377 |
| W. V. Goad | 399 | Sayer & Son* | 328 |

*See also next page.*

GLENGALL-ROAD.—Painting exterior :—

| | | | |
|---|---|---|---|
| Corfield & Co. | £265 0 | J. T. Robey | £201 17 |
| A. W. Derby* | 209 0 | | |

GOPSALL-STREET.—Painting interior and exterior :—

| | | | |
|---|---|---|---|
| Stevens Bros. | £645 | Silk & Son | £489 |
| Dearing & Son | 564 | T. Cruwys* | 463 |

GRAVEL-LANE.—Painting interior :—

| | | | |
|---|---|---|---|
| W. Downs | £420 | G. Barker | £272 |
| Johnson & Co. | 394 | J. Haydon | 270 |
| Barrett & Power | 338 | W. Hornet* | 269 |

HASELTINE-ROAD.—Painting interior :—

| | | | |
|---|---|---|---|
| J. & C. Bowyer | £380 | W. J. Howie | £326 |
| E. Proctor | 353 | C. G. Jones* | 323 |
| G. Kemp | 342 | | |

LEIPSIC-ROAD.—Painting interior and exterior :—

| | | | |
|---|---|---|---|
| J. & M. Patrick | £587 0 0 | W. Downs | £415 8 6 |
| Sayer & Son | 503 0 0 | Rice & Son | 406 0 0 |
| W. V. Goad | 490 0 0 | G. Kemp* | 392 0 0 |

"MICHAEL FARADAY."—Painting interior and exterior ;—

| | | | |
|---|---|---|---|
| Johnson & Co. | £517 0 | Lathey Bros. | £436 10 |
| H. Line | 483 0 | Holliday & Greenwood, Ltd. | 422 0 |
| W. Downs | 463 0 | Rice & Son* | 419 0 |
| Sayer & Son | 442 0 | | |

OLD CASTLE-STREET—Painting interior and exterior :—

| | | | |
|---|---|---|---|
| F. & F. J. Wood | £740 0 | J. Haydon | £606 10 |
| A. W. Derby | 720 0 | J. T. Robey* | 571 5 |
| G. Barker | 678 0 | | |

OLDFIELD-ROAD.—Painting interior and exterior :—

| | | | |
|---|---|---|---|
| T. L. Green | £1,194 | G. S. S. Williams & Son | £992 |
| J. Grover & Son | 1,024 | Stevens Bros. | 924 |
| H. Wall & Co. | 1,018 | Barrett & Power* | 884 |
| McCormick & Sons | 996 | | |

PAGE'S-WALK.—Painting interior and exterior :—

| | | | |
|---|---|---|---|
| W. V. Goad | £644 | W. Hammond | £499 |
| Johnson & Co. | 585 | Lathey Bros.* | 487 |
| J. & M. Patrick | 573 | Sayer & Son | 484 |
| H. Line | 559 | | |

PLASSY-ROAD.—Exterior painting :—

| | | | |
|---|---|---|---|
| Johnson & Co. | £186 | G. Kemp | £140 |
| J. & C. Bowyer | 184 | C. G. Jones* | 120 |
| E. Proctor | 158 | | |

REDDIN'S-ROAD.—Painting interior :—

| | | | |
|---|---|---|---|
| Sayer & Son | £407 0 | Lorden & Son | £292 15 |
| H. Line | 390 0 | Rice & Son* | 288 0 |
| J. F. Ford | 343 0 | | |

SILWOOD-STREET.—Painting interior and exterior :—

| | | | |
|---|---|---|---|
| Sayer & Son | £686 | Holliday & Greenwood, Ltd.* | £436 |
| J. & M. Patrick | 644 | | |
| H. Line | 615 | | |

STAR-LANE.—Painting interior :—

| | | | |
|---|---|---|---|
| Marchant & Hirst | £415 0 | W. Hammond | £273 19 |
| W. Chappell | 300 0 | F. T. Chinchen* | 258 17 |

SUMNER-ROAD.—Painting interior (P.T. school) and cleaning interior (main school) :—

| | | | |
|---|---|---|---|
| Holloway Bros. | £534 | Rice & Son | £425 |
| H. & G. Mallett | 458 | H. Line* | 417 |
| Maxwell Bros., Ltd. | 446 | Sayer & Son | 393 |

VICARAGE-ROAD.—Painting interior and exterior :—

| | | | |
|---|---|---|---|
| Johnson & Co. | £607 | H. Groves | £475 |
| Thomas & Edge | 495 | E. Proctor | 463 |
| W. J. Howie* | 477 | | |

WARPLE-WAY.—Painting exterior (old and new portions), painting interior (enlargement), cleaning interior (old portion) :—

| | | | |
|---|---|---|---|
| W. Hornett | £640 0 | Lathey Bros. | £525 0 |
| R. S. Ronald | 606 0 | Johnson & Co., Ltd. | 449 15 |
| J. & M. Patrick | 577 0 | Lorden & Son* | 404 15 |
| E. Flood | 550 0 | | |
| W. Hammond | 542 0 | | |

WORDSWORTH-ROAD.—Painting interior and exterior :—

| | | | |
|---|---|---|---|
| J. & M. Patrick | £1,329 | Marchant & Hirst | £999 |
| Dearing & Son | 1,078 | Stevens Bros. | 940 |
| Grover & Son | 1,069 | M. Pearson* | 830 |
| McCormick & Sons | 1,036 | | |


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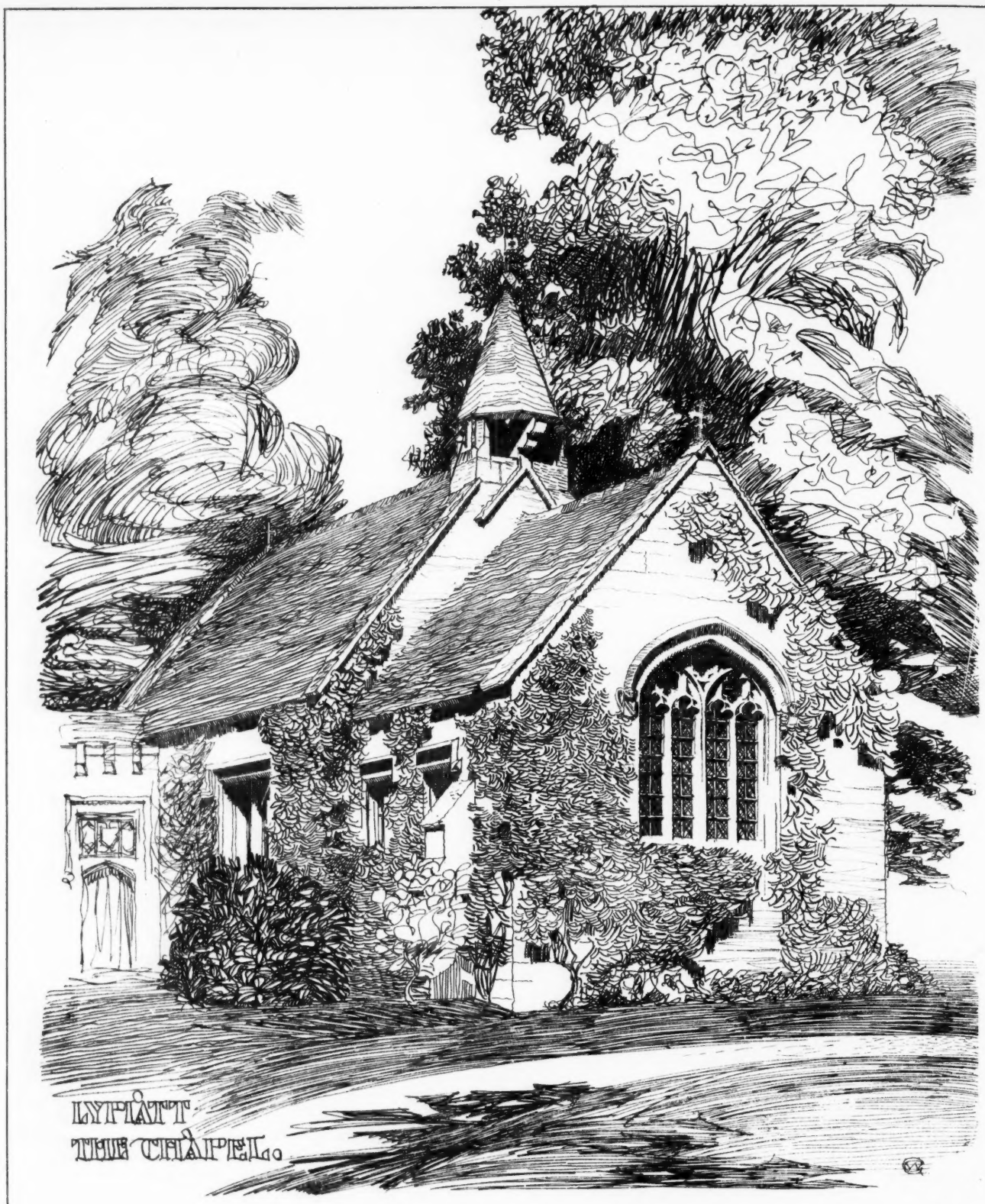

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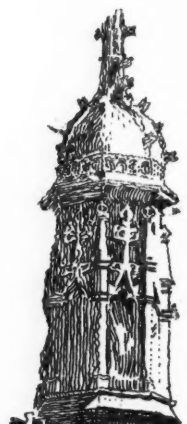

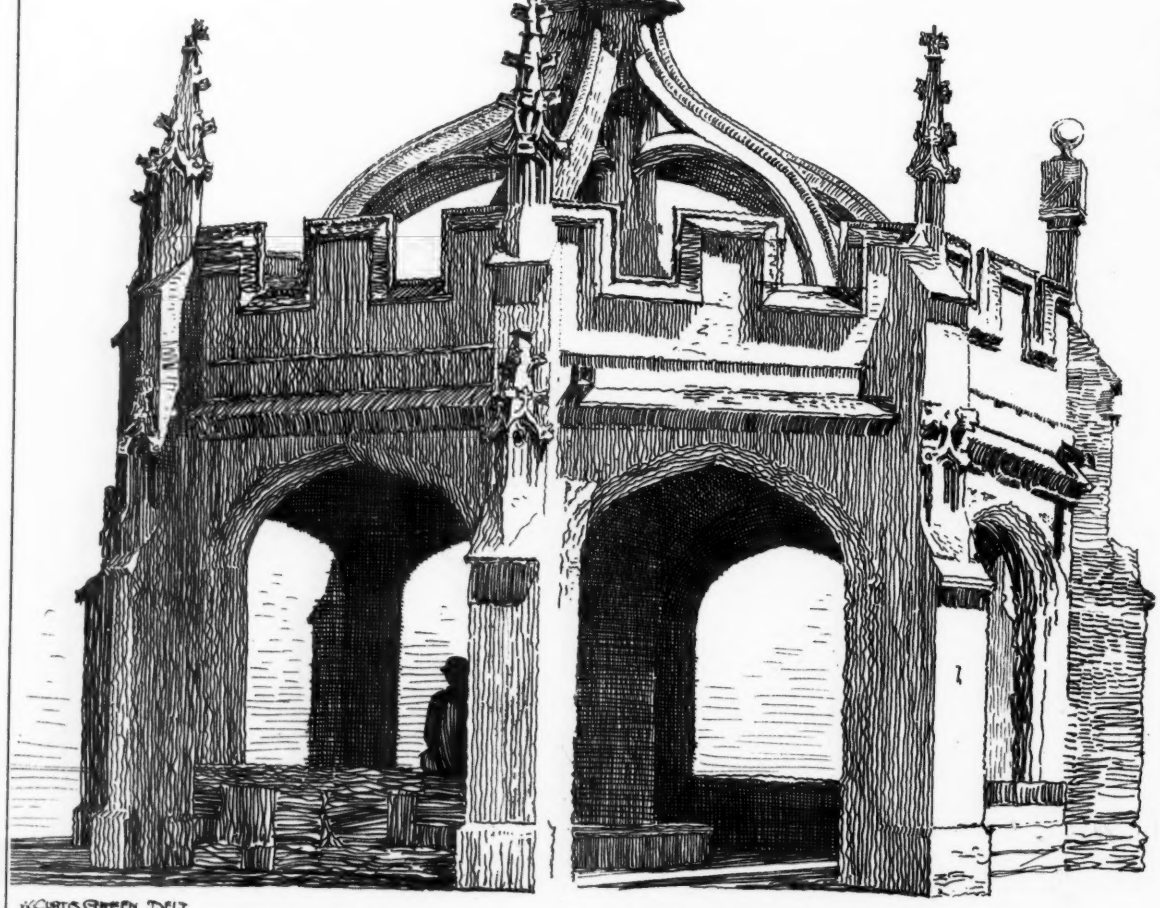

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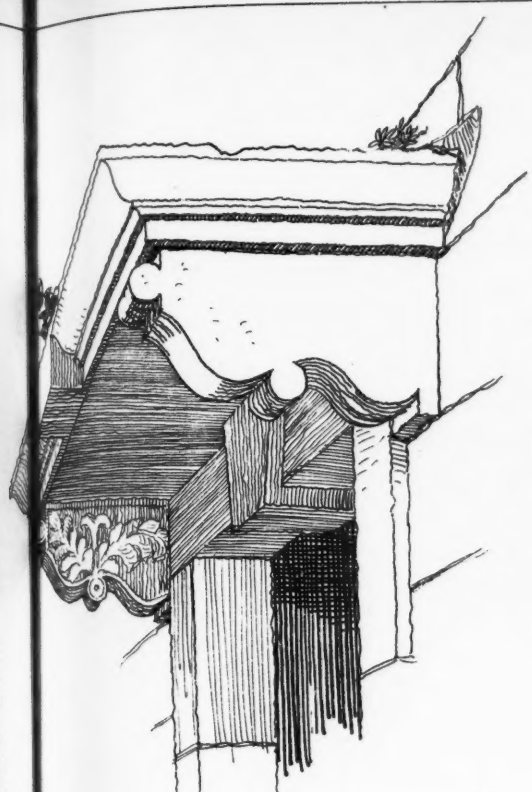

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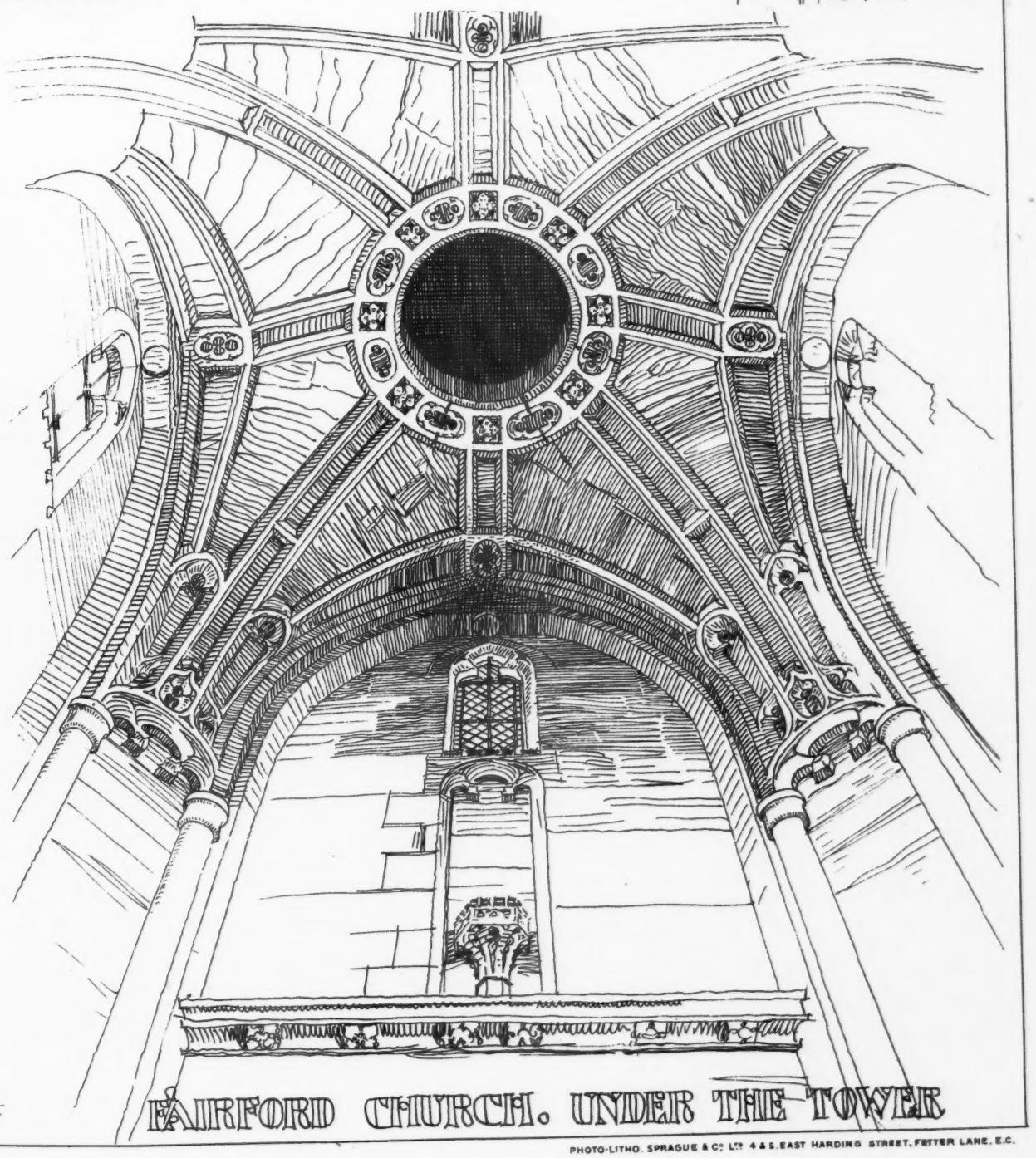

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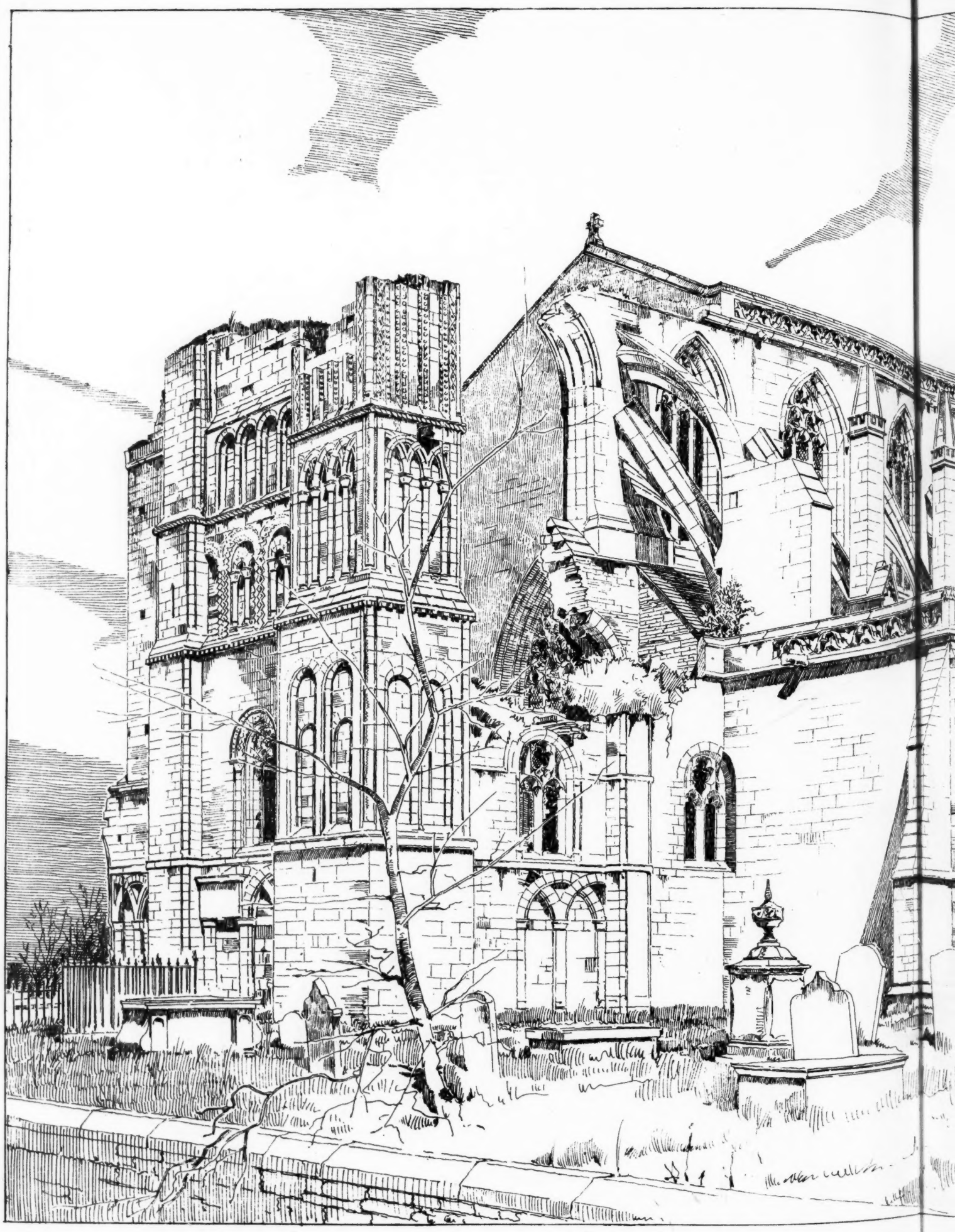

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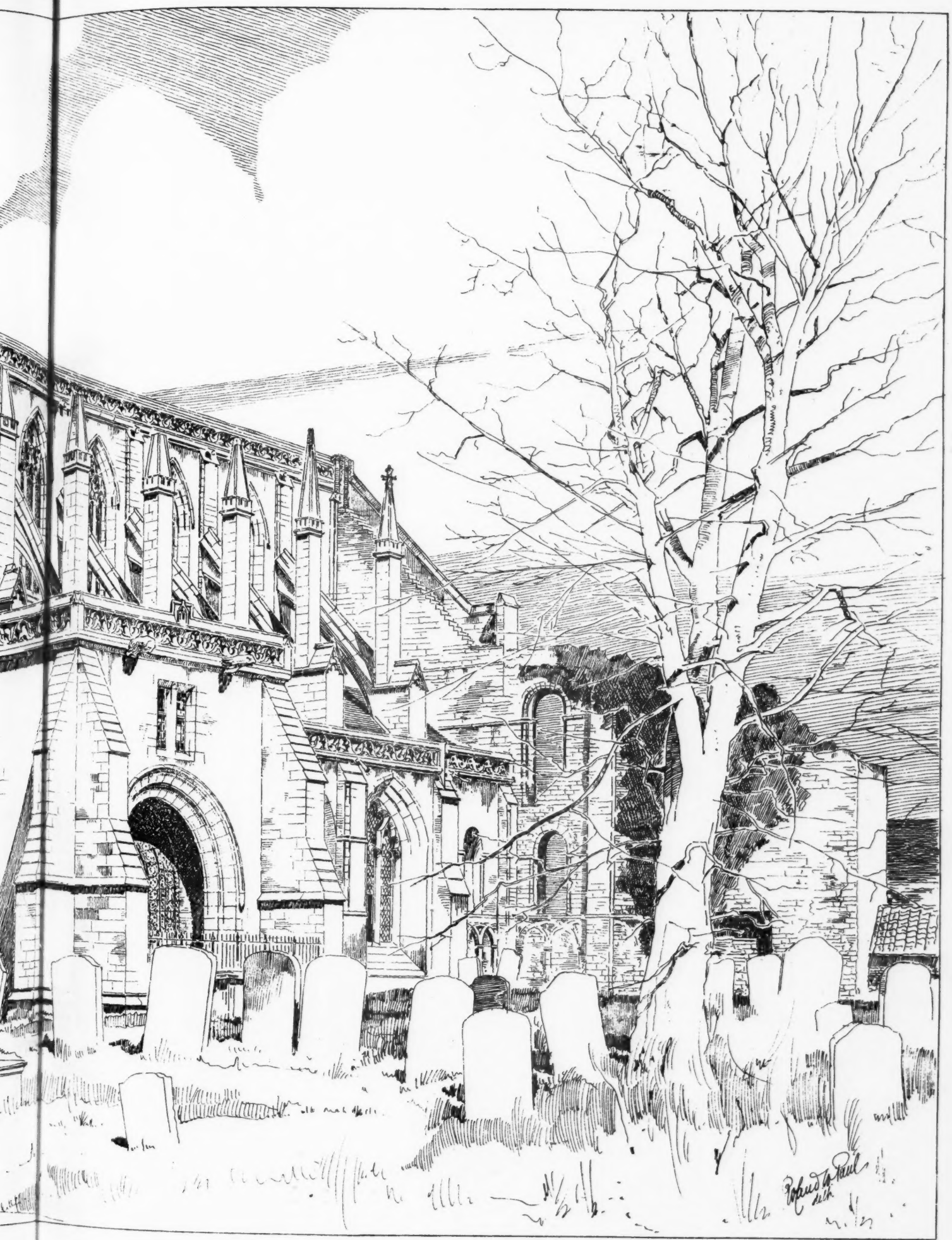

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